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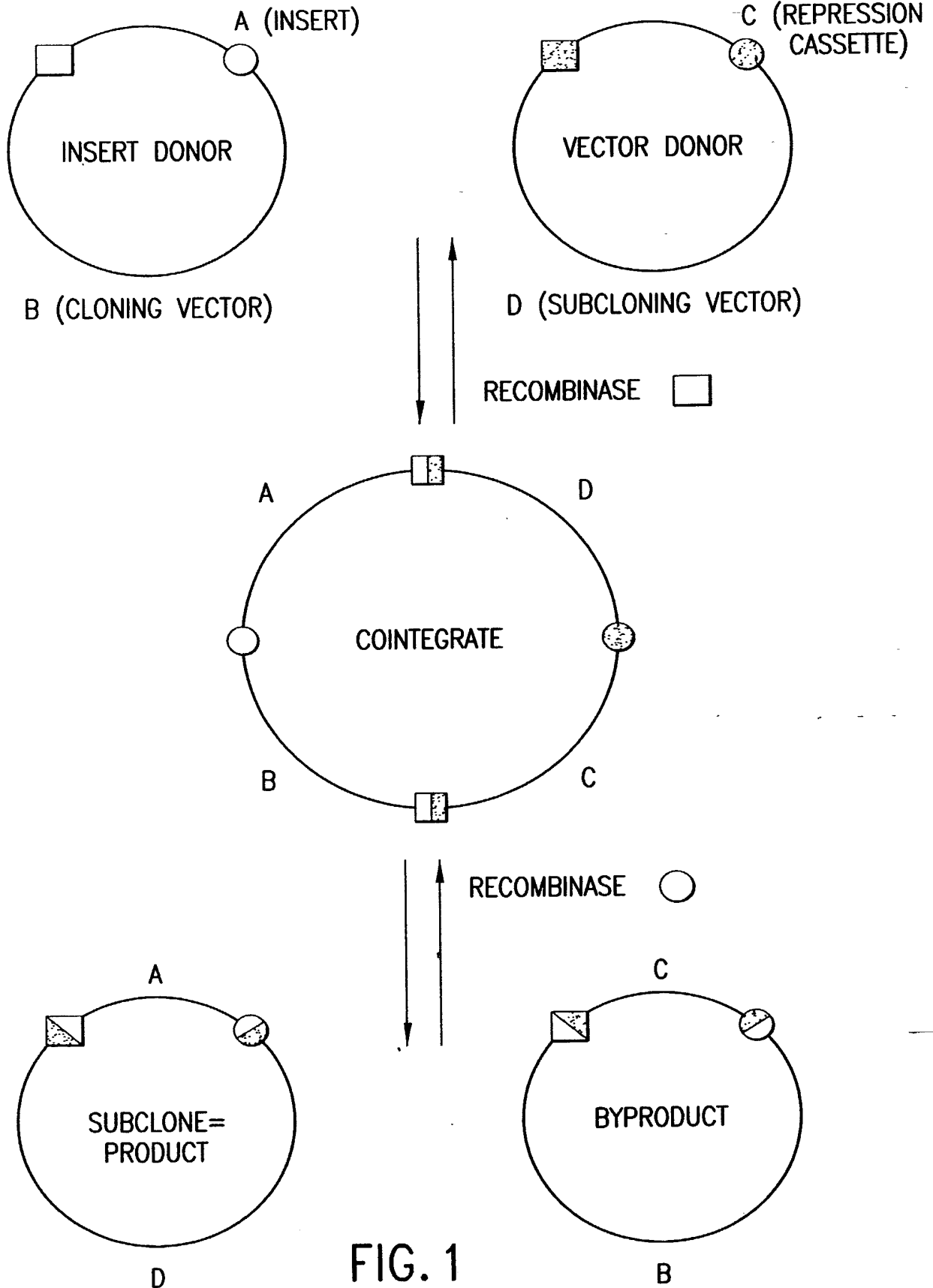


FIG. 1

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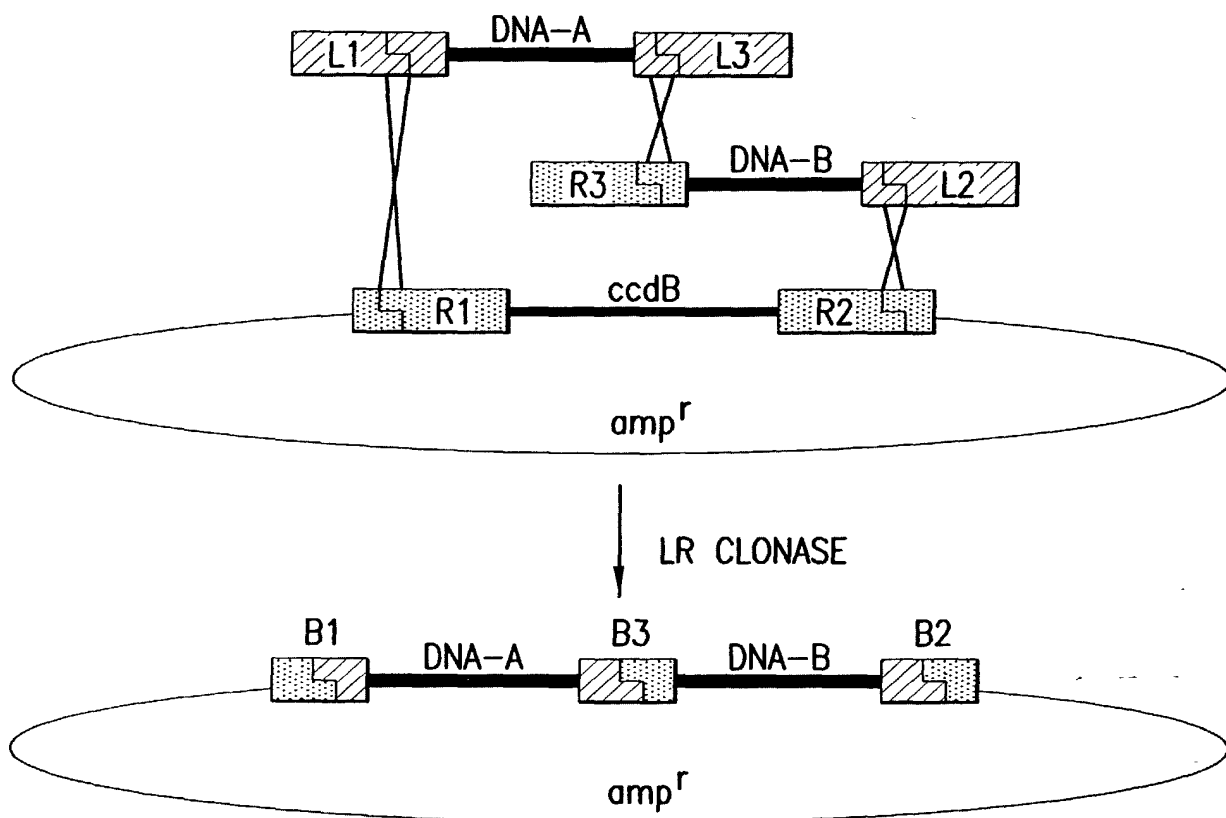


FIG. 2

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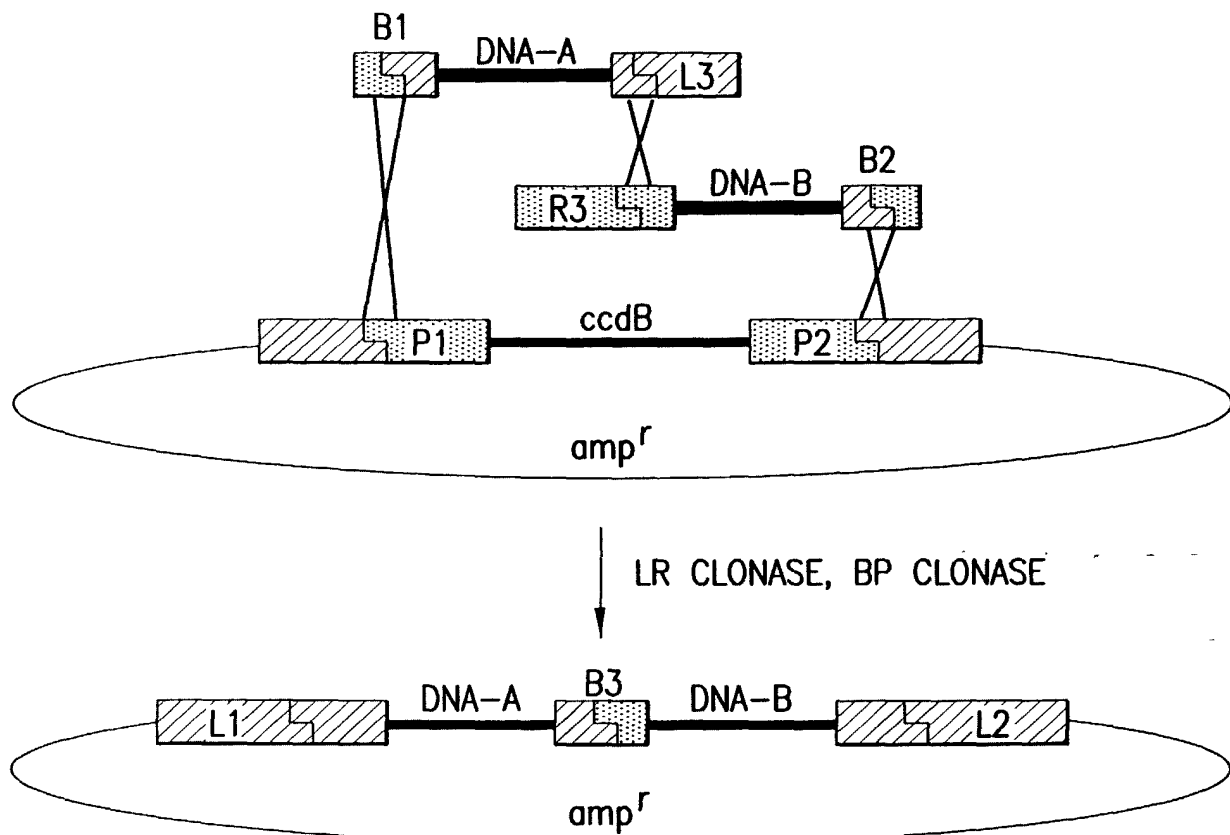


FIG. 3

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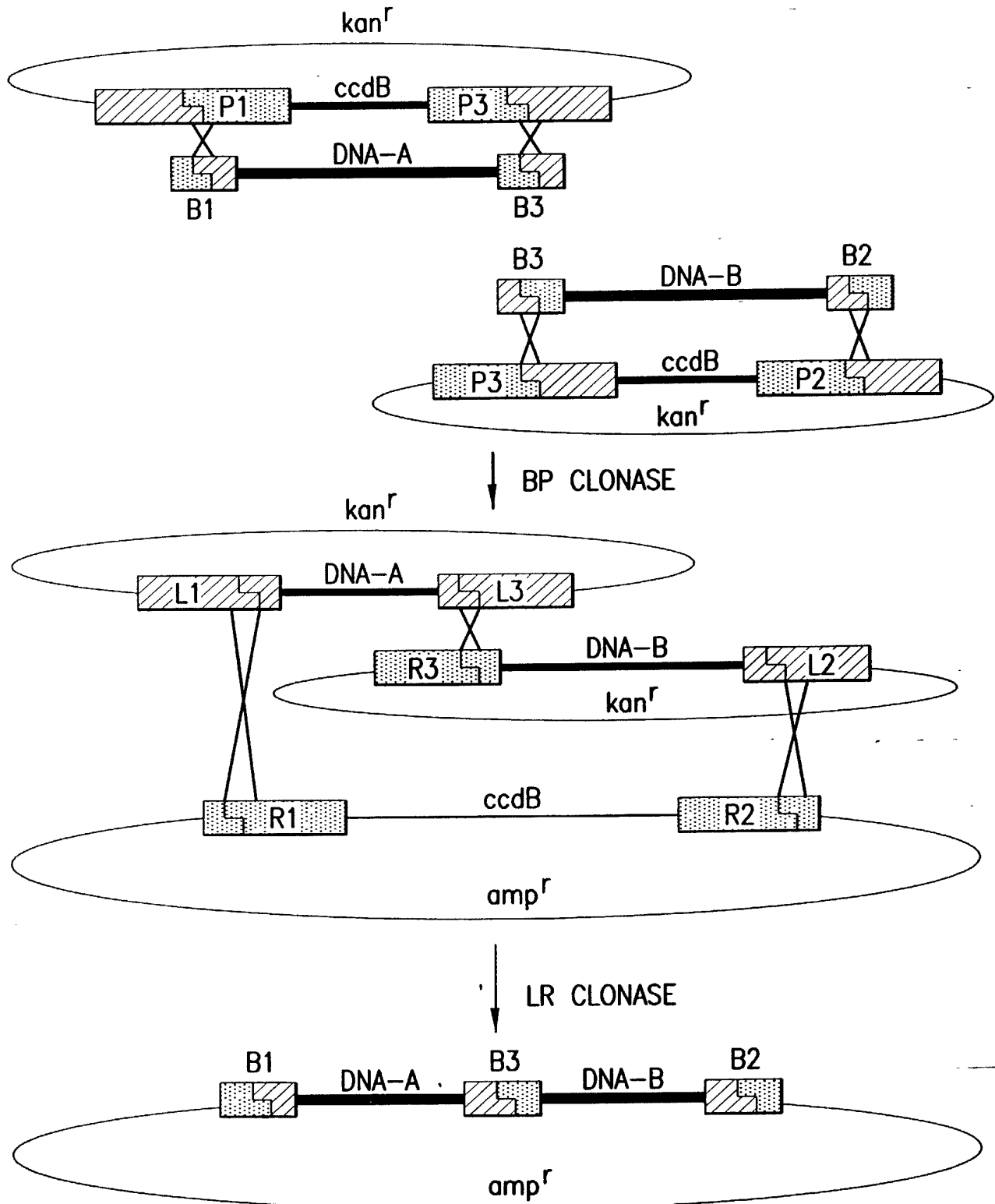


FIG. 4

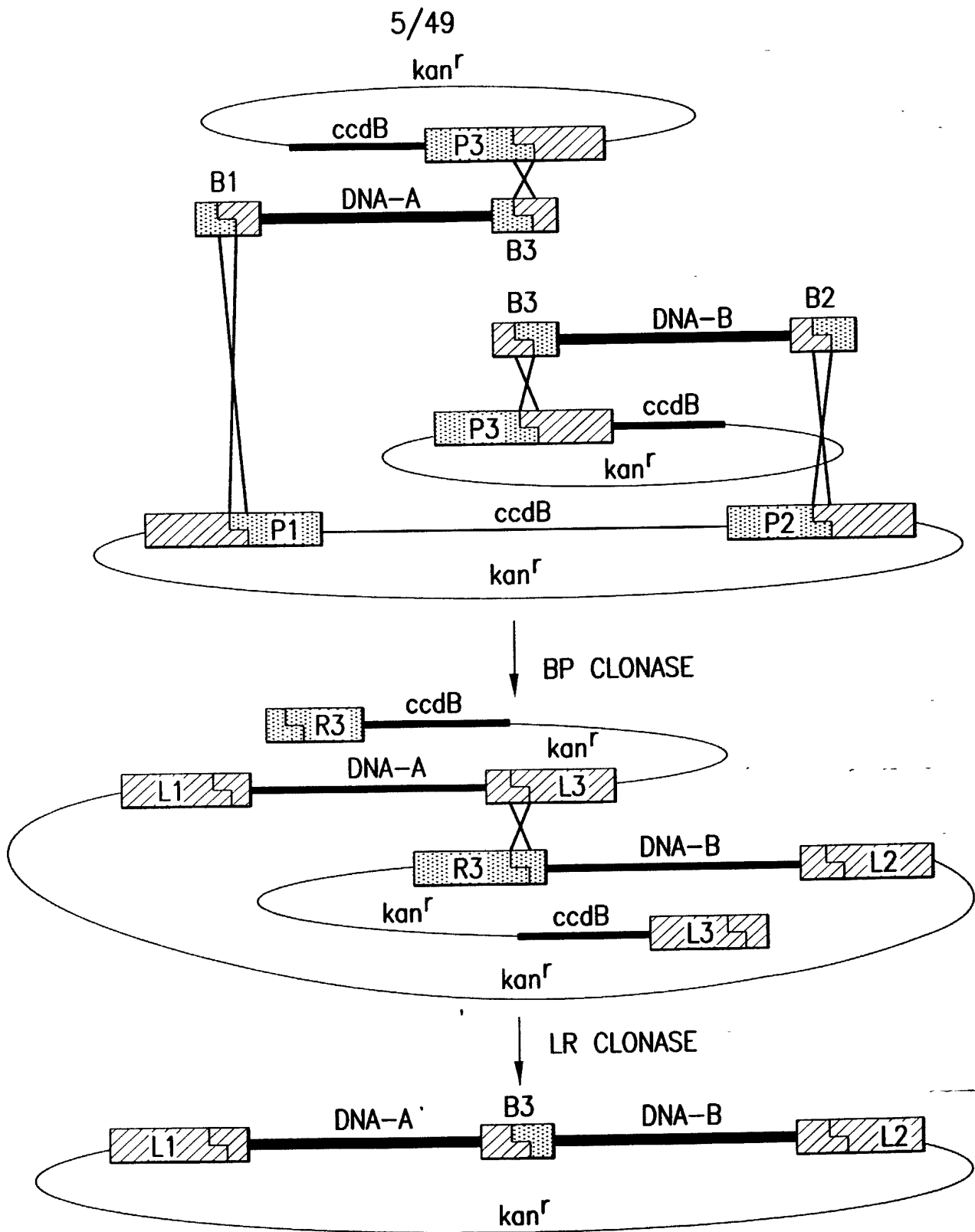


FIG. 5

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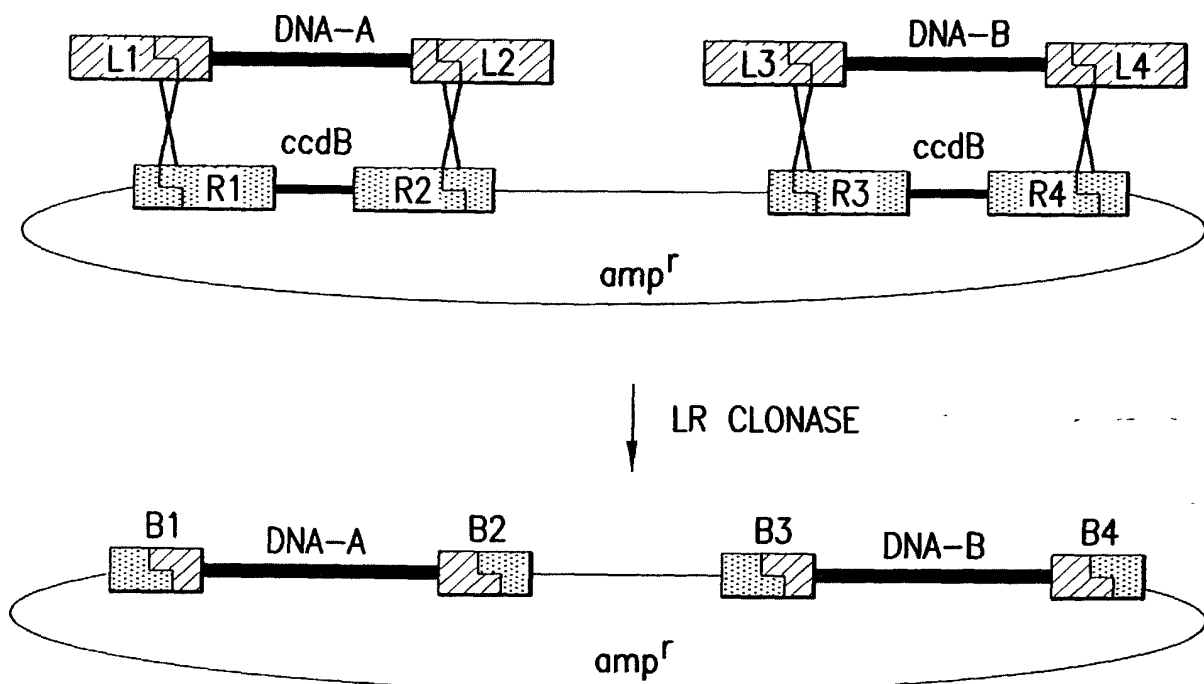


FIG. 6

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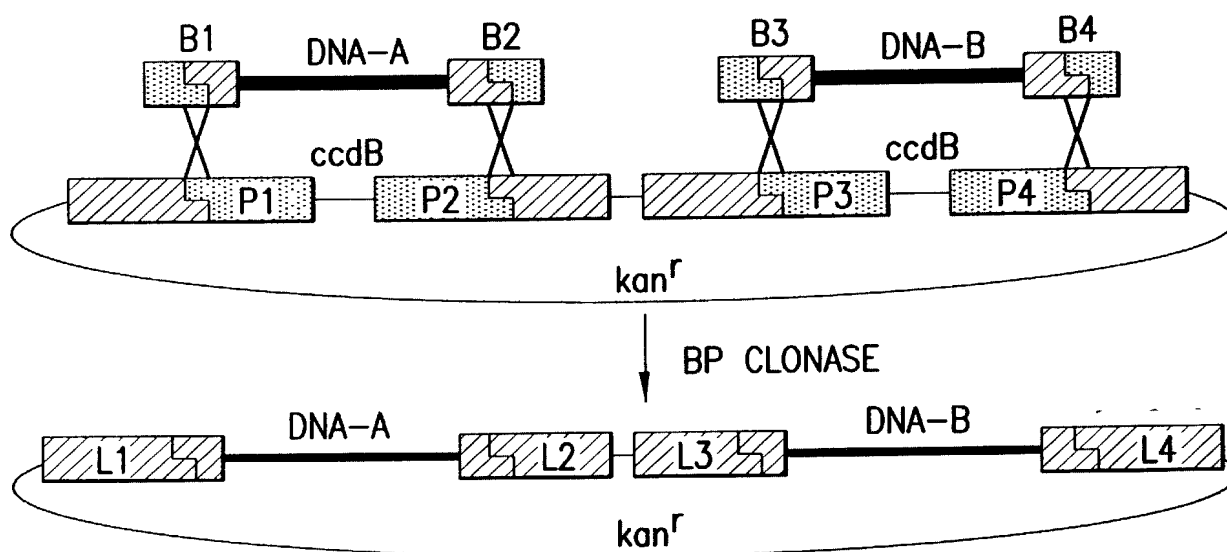


FIG. 7

FIG. 8A



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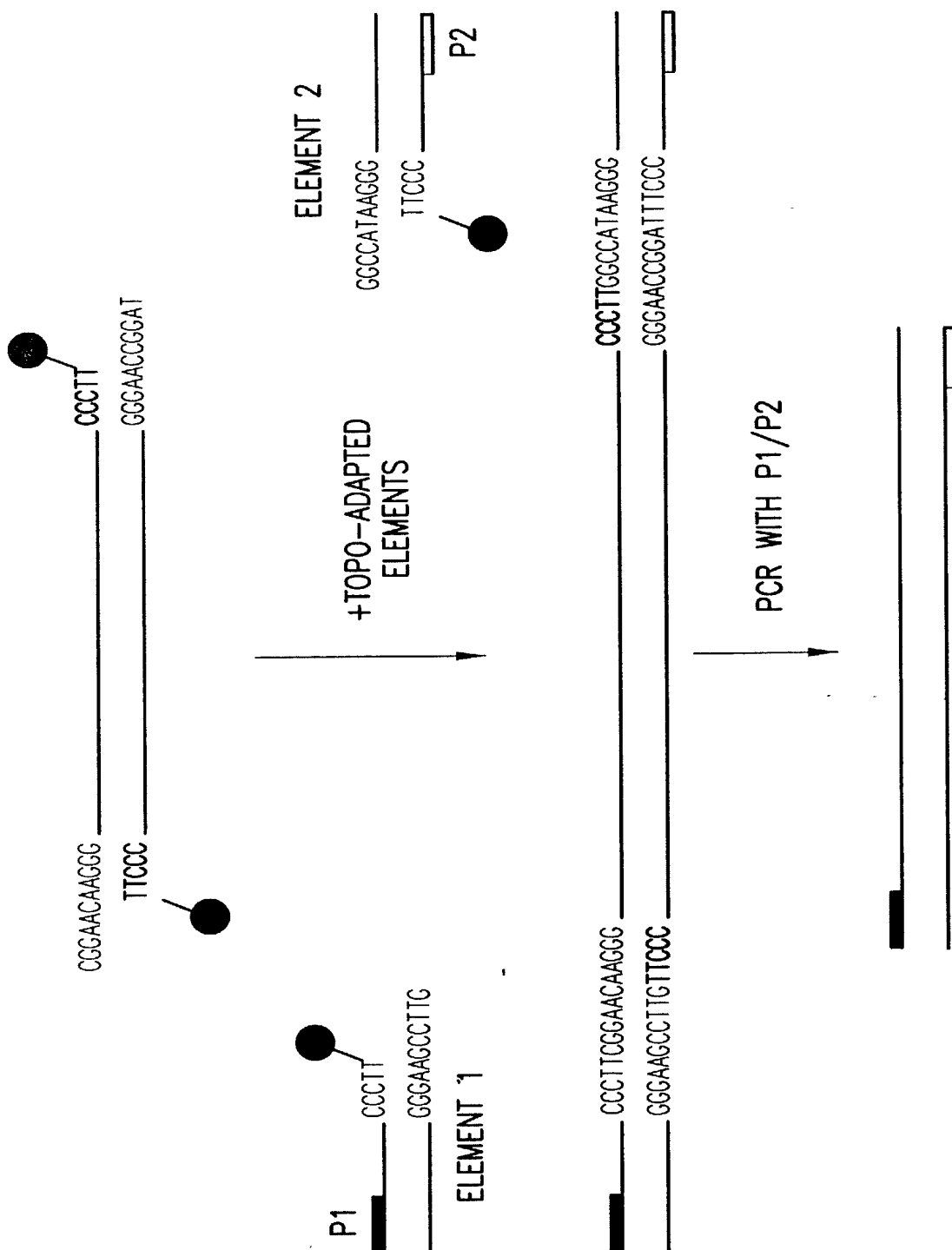


FIG. 8B

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BGH ELEMENT

(32) F7222  
 GGCCAAGG  
 TTCCC F6948

GFP ELEMENT

(30) F7220  
 TCGAAGG CCCTT  
 TTCCC GGAACCGG (31)  
 F6682

FIG. 9A

CMV ELEMENT

A.: F6945 CCCTT  
 F7221 GGAAGCT (29)

(36) F7222  
 GGCCAAGG  
 TTCCC F6948

(34) F8418  
 CGCAACAAGG CCCTT  
 TTCCC GGAACCGG (35)  
 F6682

B. F6945 CCCTT  
 F8417 GGAAGCCTTG (33)

FIG. 9B

(40) F8419  
 GGCTAAAGG  
 TTCCC F6948

(38) F8418  
 CGCAACAAGG CCCTT  
 TTCCC GGAACCGGAT (39)  
 F8420

C. F6945 CCCTT  
 F8417 GGAAGCCTTG (37)

FIG. 9C

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TABLE 1

Primer name	F#	Sequence (5'→3')	SEQ ID NO:
MTH1	10779	TATGTATCATACACATACGATTTAGGT	1
MTH2	10780	ACCGCCTCTCCCGCGCGTT	2
GAL4r2	12667	GTTCCGAAGGGGCGGATACAGTCAACTGTCTTTG	3
MTH5	12505	TTGGCCAAGGGTATCTAGAAGCTTCTGCAGACGCGT	4
VP16r2	12668	GTTCCGAAGGGCCACCGTACTCGTCAATTCCAAG	5
SV40pAf	12016	GGCCAAAAGGGAAGTTGTTTATTGCAGCTTATAATG	6
SV40pAr	561	CTCTGACTTGAGCGTCGATTTT	7
p53f2	12669	CGGAACAAGGGGAATTCCCTGTCACCGAGACC	8
SVTf2	12670	CGGAACAAGGGGAATTCGCGGGATCTGGAATTC	9
CMVr2	7221	TCGAAAGGGTTCGAGGTCCAGCTGCAGCTG	10
CMVf	6945	AATTCACATTGATTATTGAGTAGTTA	11
GFP-Xhof	7220	TCGAAAGGGTAATGGCCAGCAAAGGAGAAG	12
GFP-Notr	6682	GGCCAAGGGTTTGTAGAGCTCATCCAT	13
BGHf2	7222	GGCCAAGGGTCTGAATGGGCGCGCATAGT	14
BGHr	6948	AAGCCATAGAGCCCGGCCA	15
CMVr3	8417	GTTCCGAAGGGTCGAGGTCCAGCTGCAGCTG	16
GFPf3	8418	CGGAACAAGGGATGGCCAGCAAAGGAGAAG	17
GFPf3	8420	TAGGCCAAGGGTTTGTAGAGCTCATCCATGC	18
BGHf3	8419	GGCCTAAAGGGTGAATGGGCGCGCATAGT	19
T7top	9304	GAAGGAGTAATACGACTCACTATAGGGAGCCACCATGGGCCCTTCGGAAC	20
T7bottom	9305	GTTCCGAAGGGCCCATGGTGGCTCCCTATAGTGAGTCGTATTACTCCTTC	21
T7amp	9306	GAAGGAGTAATACGACTCACT	22
T3top	9661	GGCCTAAAGGGTCCCTTTAGTGAGGGTTAATTGCGCGC	23
T3bottom	9662	GCGCGCAATTAACCCCTCACTAAAGGGACCCCTTTAGGCC	24
lacZf2	10632	CGGAACAAGGGATGATAGATCCCGTCGTTTTACA	25
lacZ1k2	10770	TAGGCCAAGGGGACCATTTTCAATCCGCACCT	26
lacZ2k2	10771	TAGGCCAAGGGGAGGCACTTACCGCTTGCCA	27
lacZ3k2	10772	TAGGCCAAGGGTTTGACACCAGACCAACTGGTA	28

FIG. 9D

10005876.070002

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FIG. 10A

SAMPLE #	GAL4+pA	VP16+pA	pGene/lacZ	GAL4+p53+pA	VP16+T+pA	p53-VP16
1			0.26 $\mu$ g	p0.37 $\mu$ g	p0.37 $\mu$ g	
2			0.4 $\mu$ g	p0.3 $\mu$ g	p0.3 $\mu$ g	
3			0.4 $\mu$ g			p0.6 $\mu$ g
4			0.4 $\mu$ g	10.3 $\mu$ g	10.3 $\mu$ g	
5		10.3 $\mu$ g	0.4 $\mu$ g	10.3 $\mu$ g		
6	10.3 $\mu$ g		0.4 $\mu$ g		10.3 $\mu$ g	
7			0.4 $\mu$ g	4.5 $\mu$ l PCR	4.5 $\mu$ l PCR	
8		4.5 $\mu$ l PCR	0.4 $\mu$ g	4.5 $\mu$ l PCR		
9	4.5 $\mu$ l PCR		0.4 $\mu$ g		4.5 $\mu$ l PCR	

MAMMALIAN TWO-HYBRID

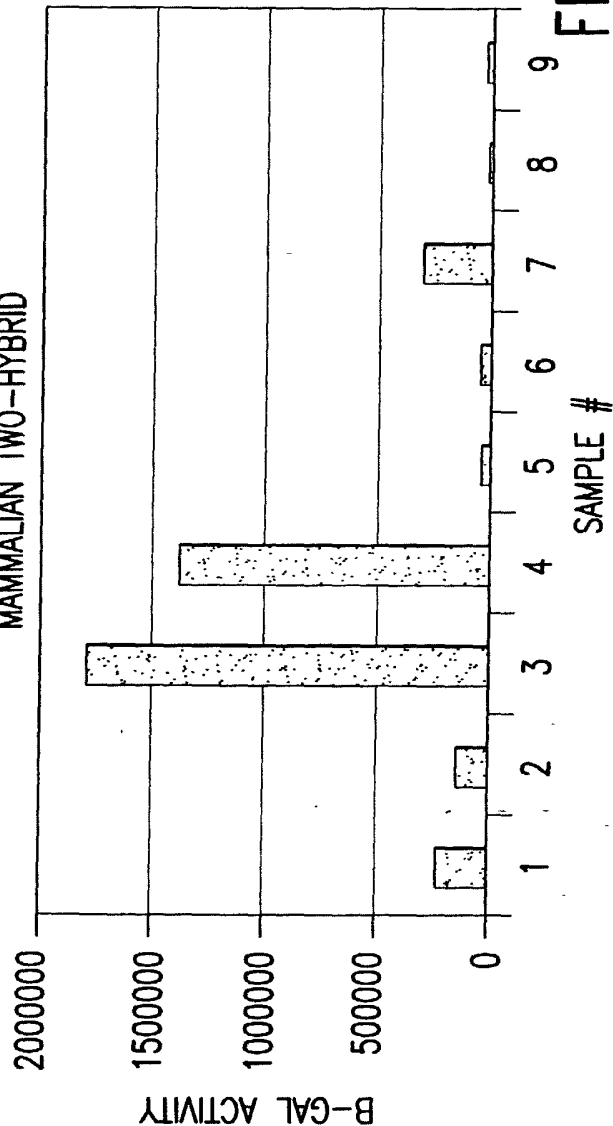


FIG. 10B

SAMPLE #	LacZ activity
1	240000
2	140000
3	1800000
4	1400000
5	54000
6	80000
7	320000
8	12000
9	42000

The diagram illustrates the formation of a double Holliday junction (dHJ) from a double-strand break (DSB). On the left, a DSB is shown with two broken DNA molecules. In the middle, the broken strands invade a homologous double-stranded DNA molecule, forming a recombination intermediate. On the right, the final dHJ is shown, consisting of two intertwined DNA molecules, each with two arms, representing the state before resolution.

FIG. 11F

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FIG. 12A



FIG. 12B

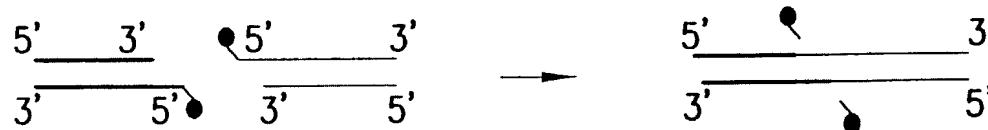


FIG. 12C

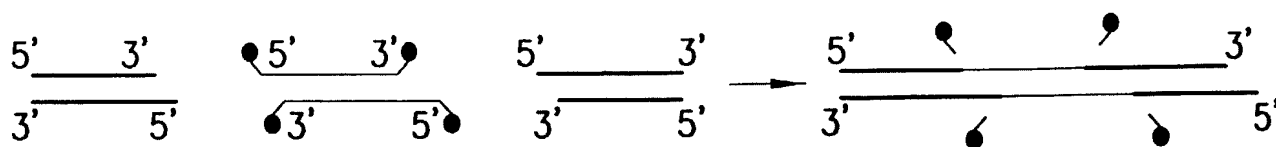


FIG. 12D

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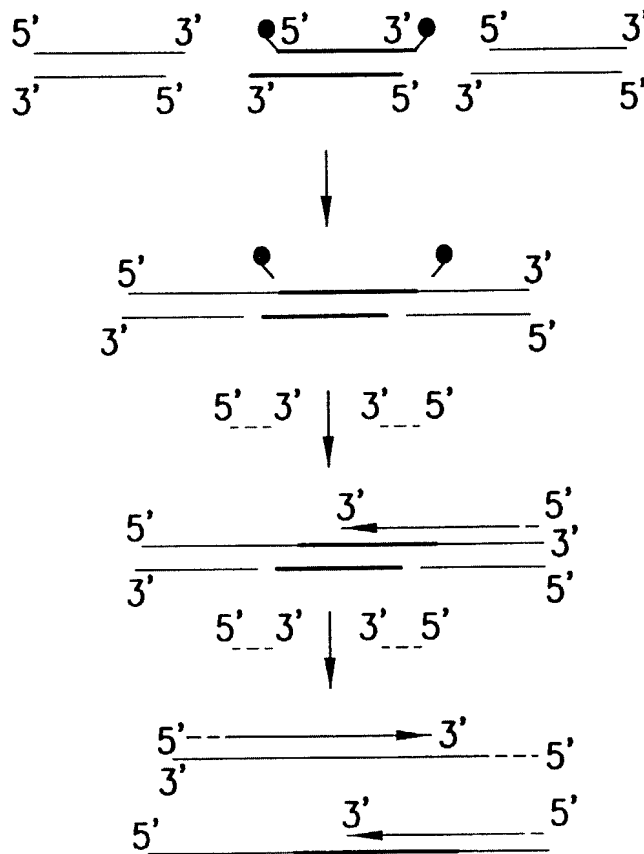


FIG. 13

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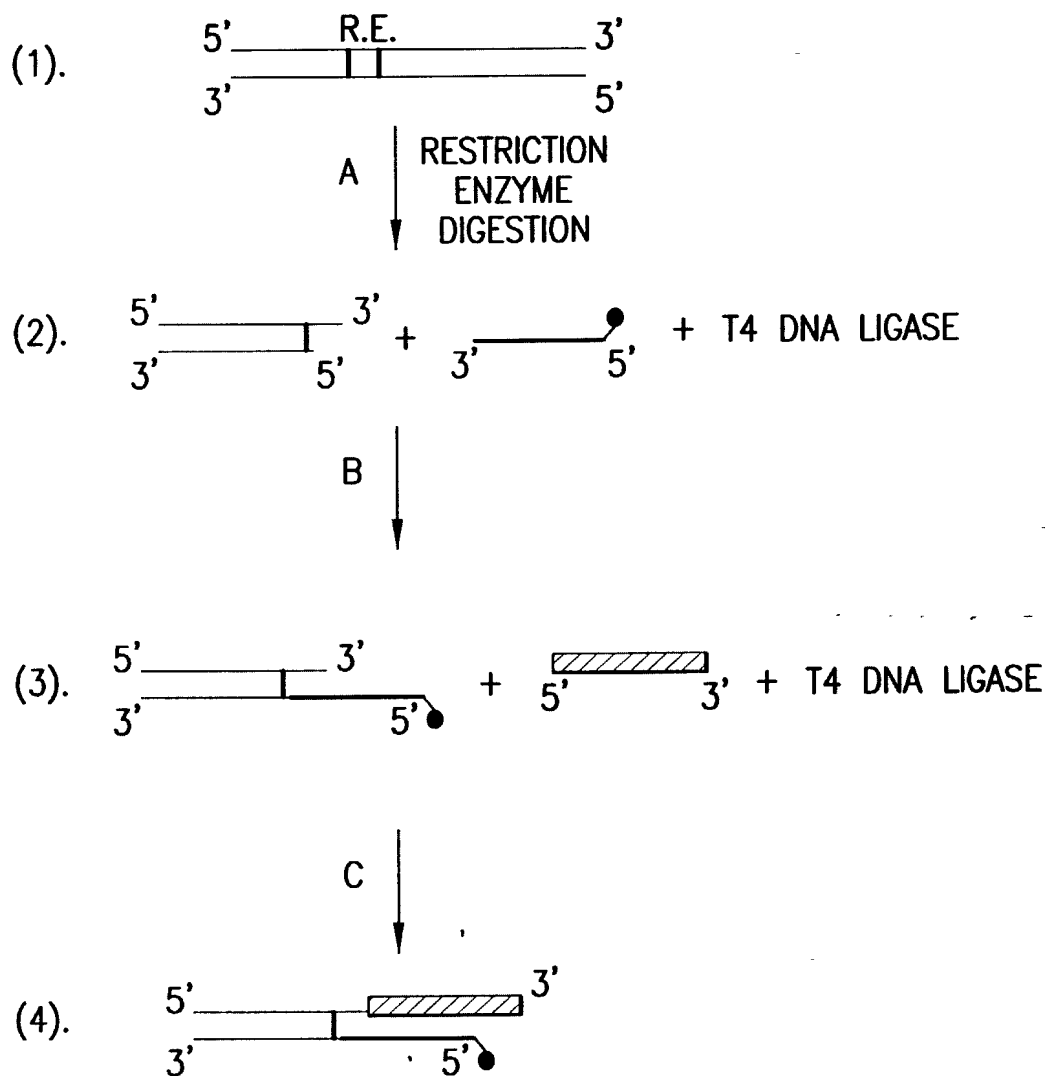


FIG. 14



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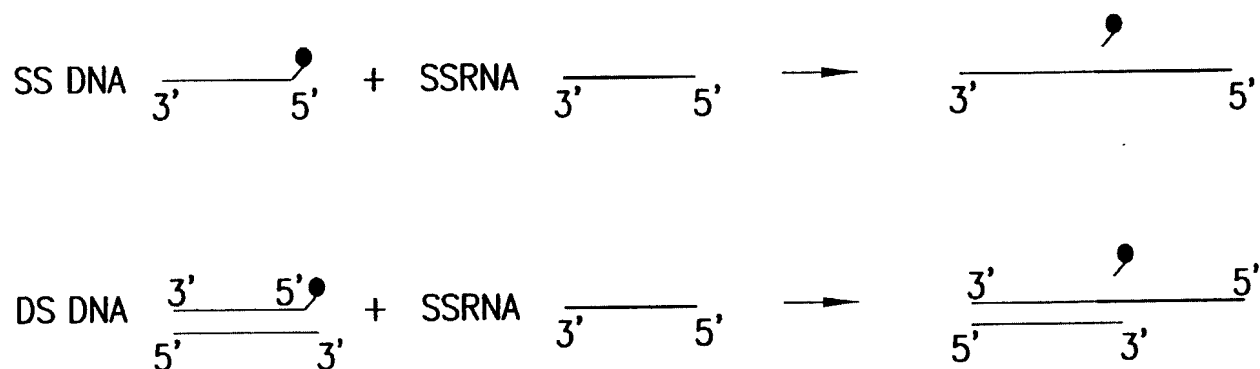


FIG. 15

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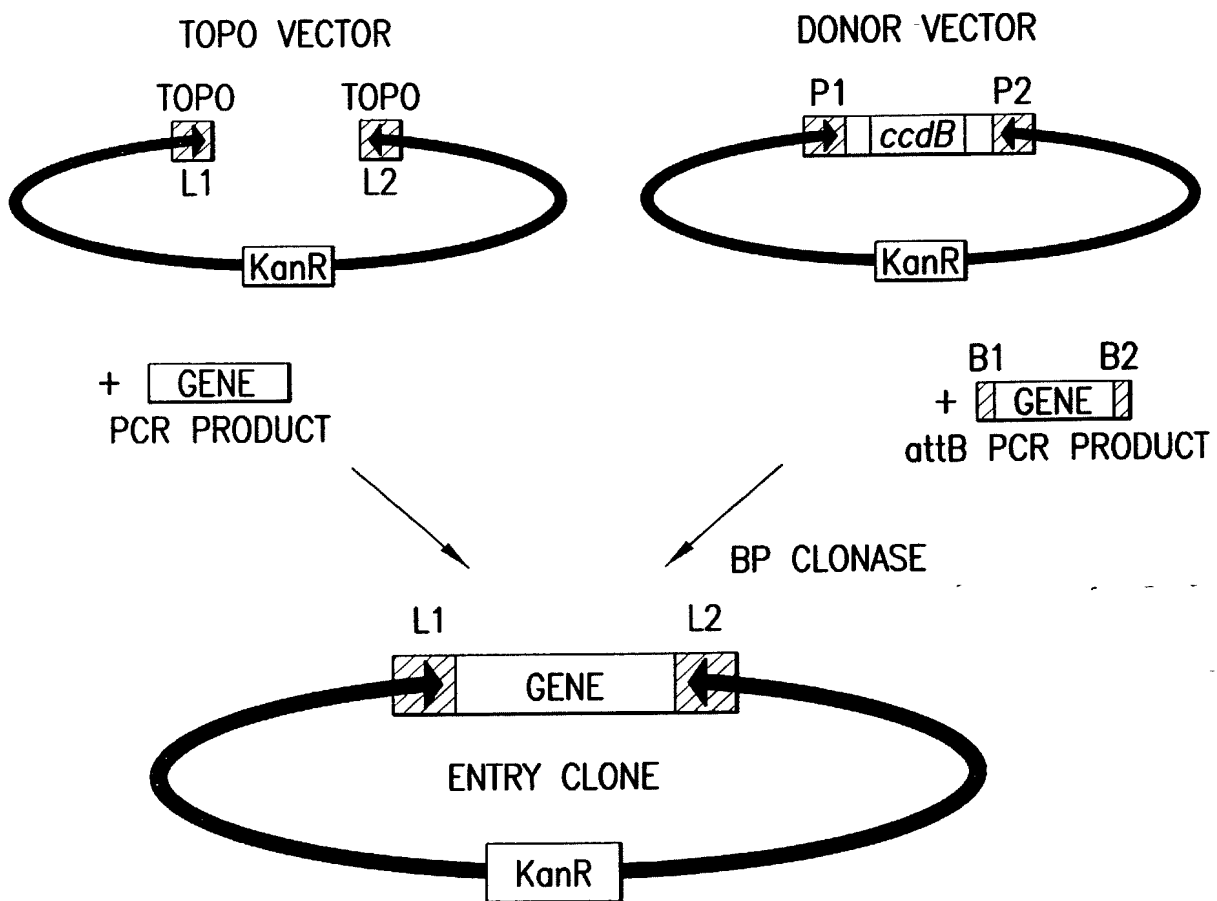


FIG. 16

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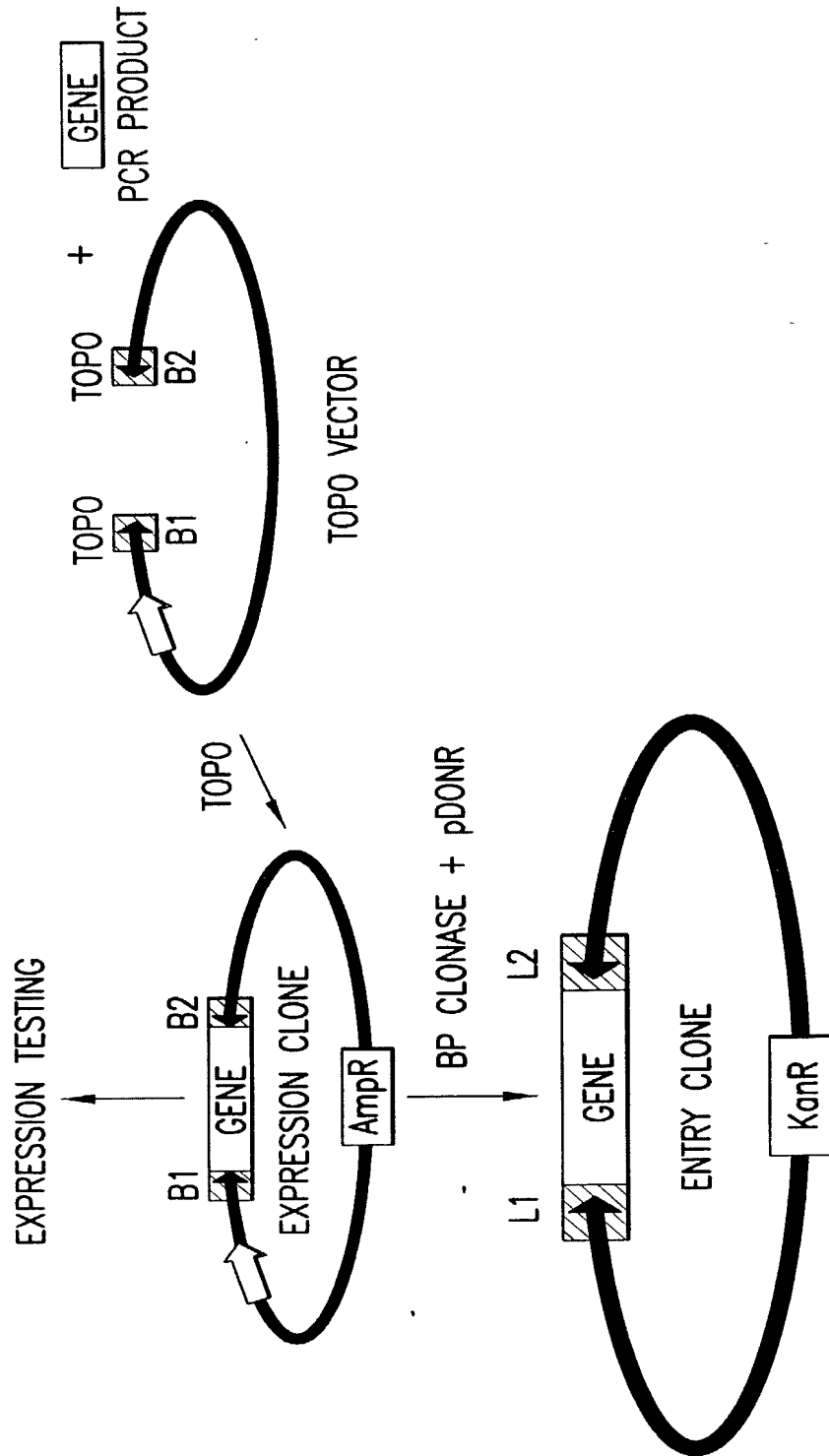


FIG.17

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MCS FOR pcDNAGW-DT(sc) AND pENTR-DT(sc)



L	Y	K	K	A	G	S	A	A	A	G	R	A	D	P	A	F	L	Y	K	V			
...	TTG	TAC	AAA	AAA	GCA	GCC	TCC	GCG	GCC	GTA	CTC	GAG	AAA	GGG	GCG	GAC	CCA	GCT	TTC	TTG	TAC	AAA	GTG
	<i>BsrG I</i>					<i>Not I</i>				<i>Xho I</i>			<i>Asc I</i>						<i>BsrG I</i>				
																							
	AttL1/B1										AttL2/B2												

FIG. 18

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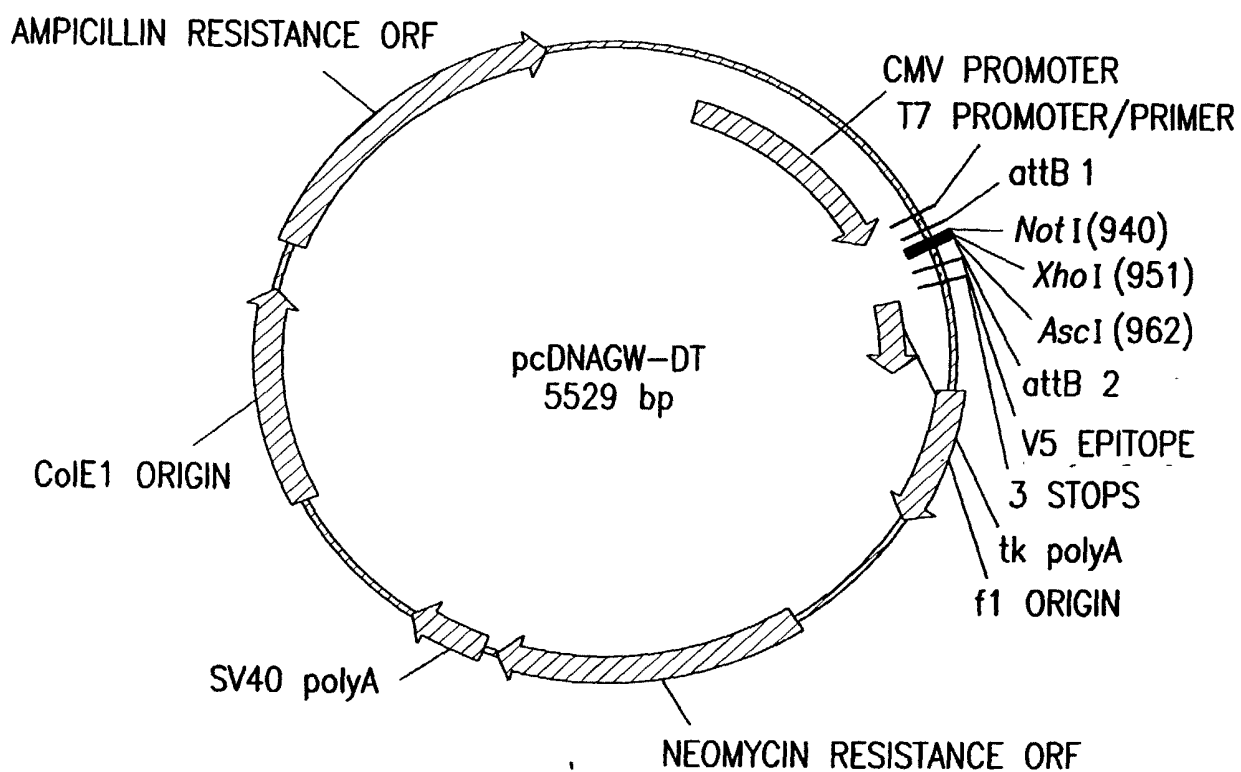


FIG. 19

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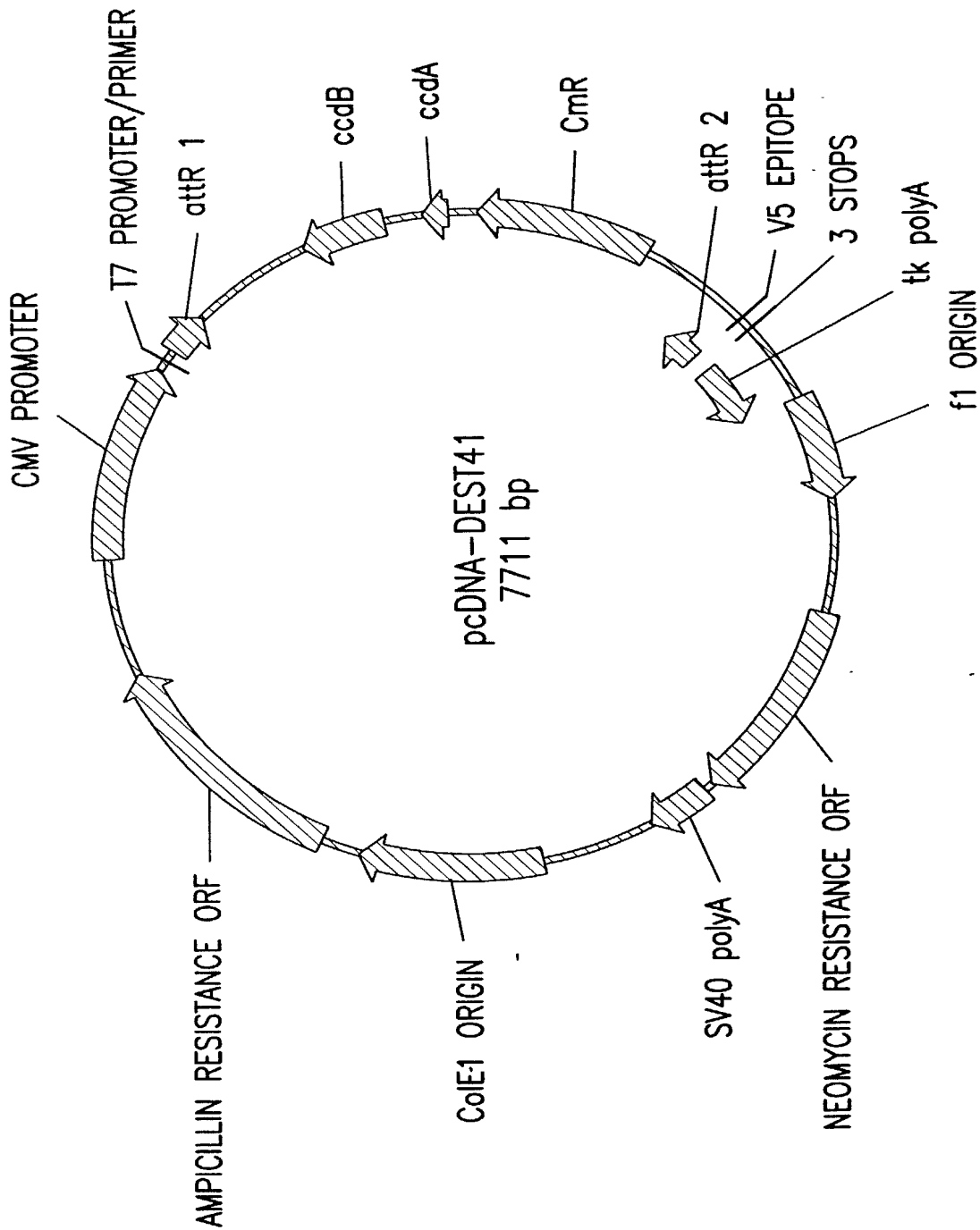


FIG. 20

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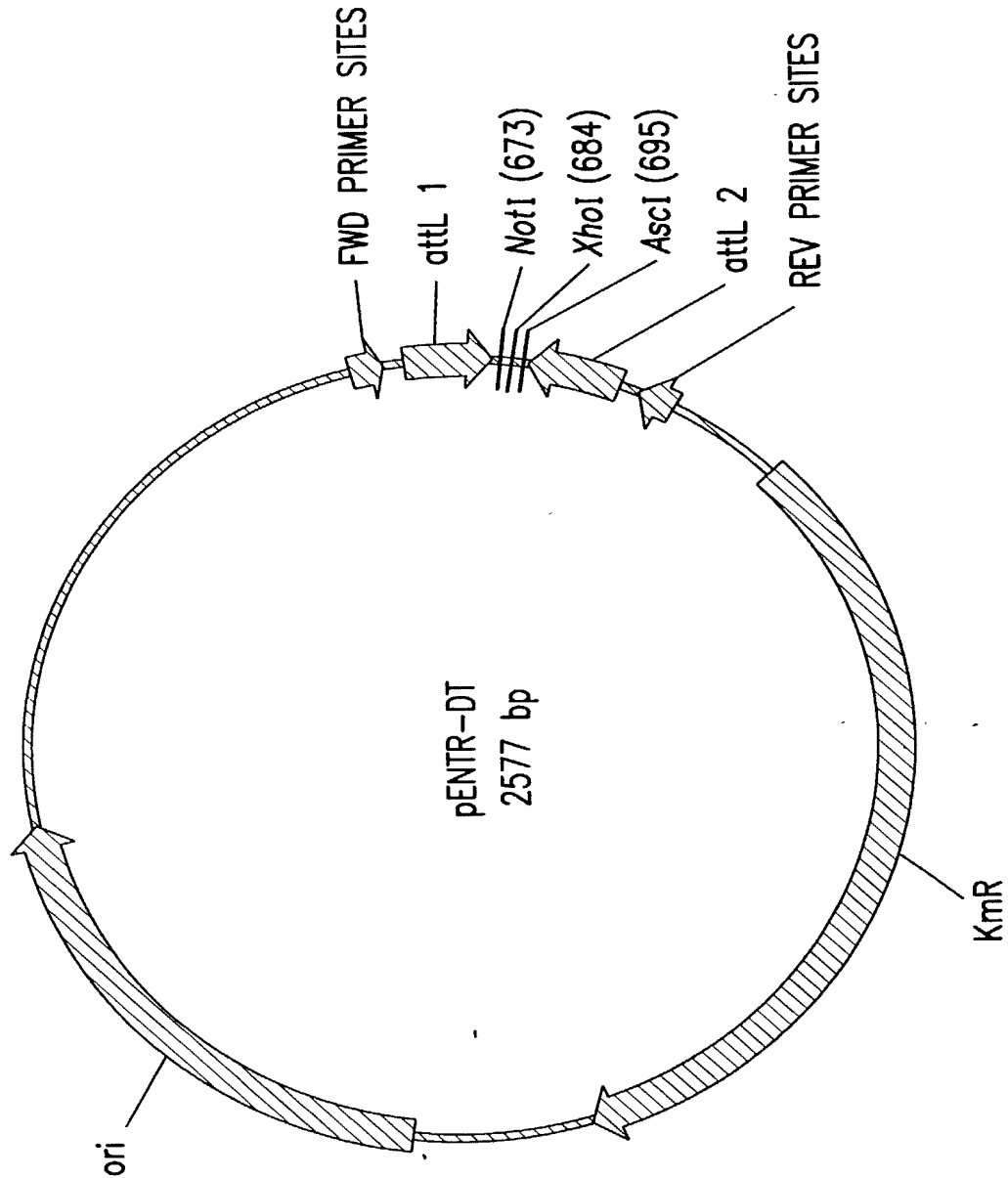


FIG. 21

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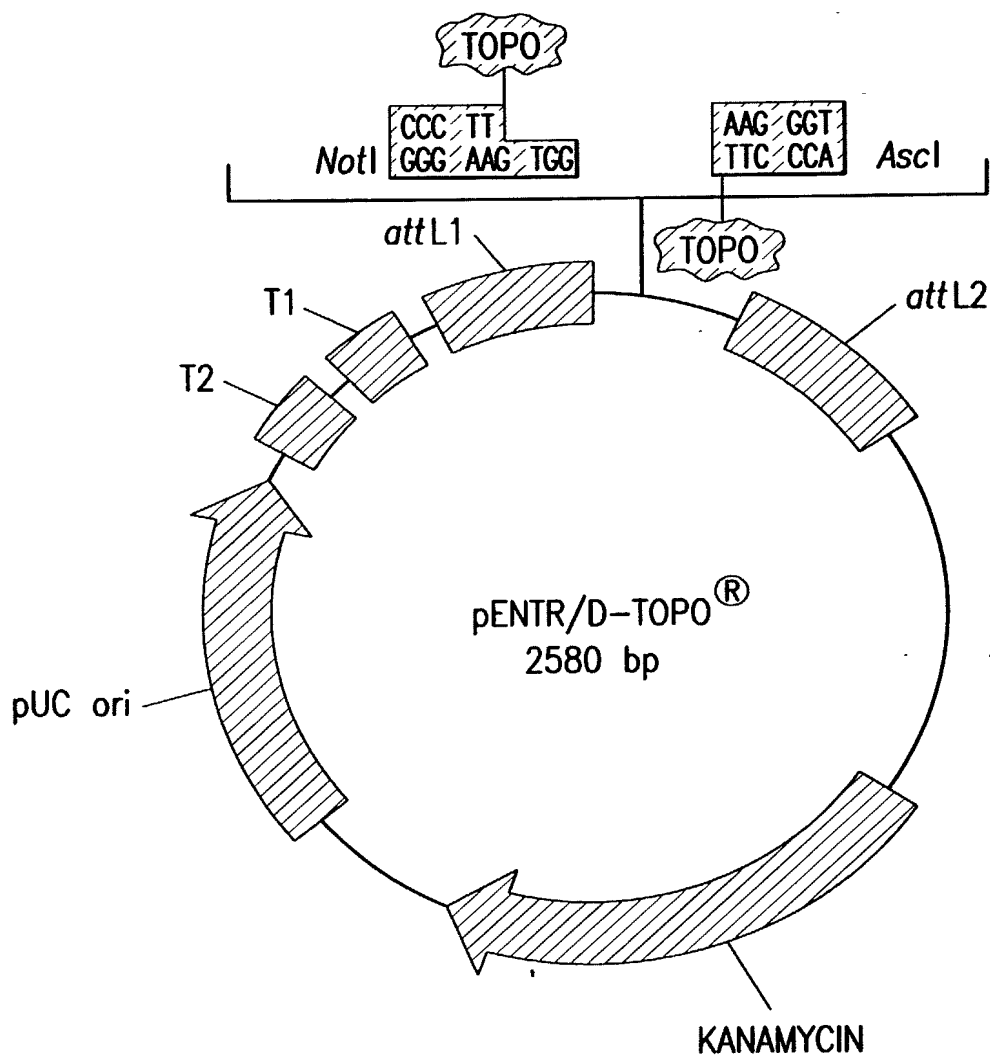


FIG. 22A



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```

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121 gcgcccaata cgcaaaccgc ctctccccgc gcgttggccg attcattaat gcagctggca
181 cgacaggttt cccgactgga aagcggggcag tgagcgcaac gcaattaata cgcgtaccgc
241 tagccaggaa gagtttgtag aaacgcaaaa aggccatccg tcaggatggc cttctgctta
301 gtttgatgcc tggcagttta tggcggggcgt cctgcccgcc accctccggg ccgttgcttc
361 acaacgttca aatccgctcc cggcggattt gtcctactca ggagagcggt caccgacaaa
421 caacagataa aacgaaaggc ccagtcttcc gactgagcct ttcgttttat ttgatgcctg
481 gcagttccct actctcgcgt taacgctagc atggatgttt tcccagtcac gacgttgtaa
541 aacgacggcc agtcttaagc tcgggccccca aataatgatt ttattttgac tgatagtgcg
601 ctgttcgttg caacaaattg atgagcaatg cttttttata atgccaaact tgtacaaaaa
661 agcaggctcc gcggccgccc cttcaccatg nnnnnnnnna aggggtggcg cgccgaccca
721 gctttcttgt acaaagttgg cattataaga aagcattgct tatcaatttg ttgcaacgaa
781 caggtcacta tcagtcacaaa taaaatcatt atttgccatc cagctgatat cccctatagt
841 gagtcgtatt acatggatcat agctgtttcc tggcagctct ggcccgtgtc tcaaaatctc
901 tgatgttaca ttgcacaaga taaaaatata tcatcatgaa caataaaact gtctgcttac
961 ataaacagta atacaagggg tgttatgagc catattcaac gggaaacgtc gaggccgcga
1021 ttaaattcca acatggatgc tgatttatat gggataaaat gggctcgcga taatgtcggg
1081 caatcaggtg cgacaatcta tcgcttgatg ggaagcccg atgcgccaga gttgtttctg
1141 aaacatggca aaggtagcgt tgccaatgat gttacagatg agatggtcag actaaactgg
1201 ctgacggaat ttatgcctct tccgaccatc aagcatttta tccgtactcc tgatgatgca
1261 tgggttactca ccaactgcgat ccccgaaaaa acagcattcc aggtattaga agaatacctt
1321 gattcaggtg aaaatattgt tgatgcgctg gcagtgttcc tgcgccgggt gcattcgatt
1381 cctgtttgta attgtccttt taacagcgat cgcgtatttc gtctcgctca ggcgcaatca
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1501 gttgaacaag tctggaaaga aatgcataaa cttttgccat tctcaccgga ttcagtcgtc
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1621 attgatgttg gacgagtcgg aatcgcagac cgataccagg atcttgccat cctatggaac
1681 tgcctcgggt agttttctcc ttcattacag aaacggcttt ttcaaaaata tggattgat
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2221 agacgatagt taccggataa ggcgagcgcg tcgggctgaa cgggggggtt gtgcacacag
2281 cccagcttgg agcgaacgac ctacaccgaa ctgagatacc tacagcgtga gcattgagaa
2341 agcggccacg ttcccgaagg gagaaaggcg gacaggtatc cggtaagcgg cagggtcgga
2401 acaggagagc gcacgaggga gcttccaggg ggaaacgcct ggtatcttta tagtcctgtc
2461 gggtttcgcc acctctgact tgagcgctga tttttgtgat gtcgctcagg gggcgggagc
2521 ctatggaaaa acgccagcaa cgcggccttt ttacggttcc tggccttttg ctggcctttt
2581 gctcacatgt t

```

FIG.22B

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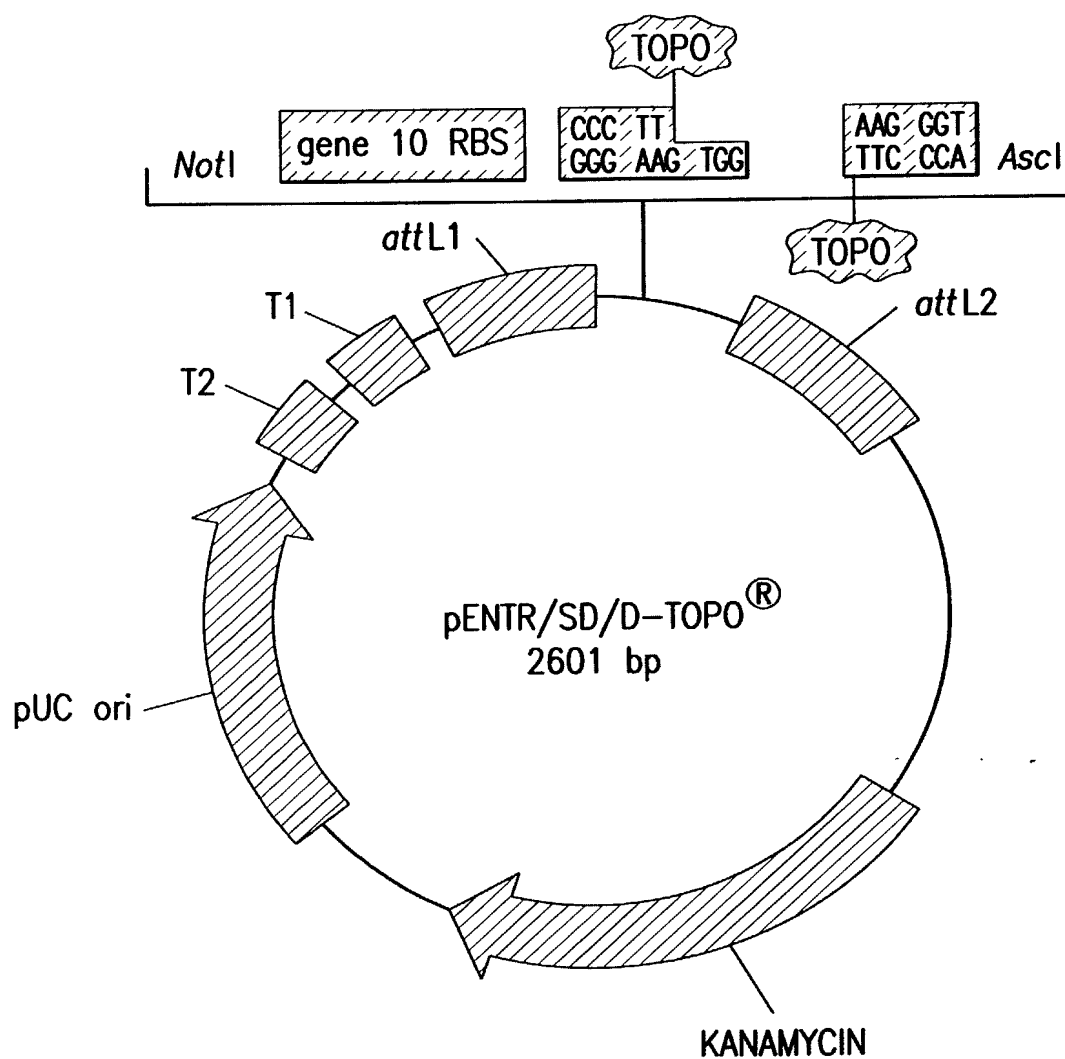


FIG. 23A

100003376\_070602

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121 gcgcccaata cgcaaaccgc ctctccccgc gcgttgccg attcattaat gcagctggca
181 cgacagggtt cccgactgga aagcgggcag tgagcgcaac gcaattaata cgcgtaccgc
241 tagccaggaa gagttttag aaacgcaaaa aggccatccg tcaggatggc cttctgctta
301 gtttgatgcc tggcagttta tggcgggctt cctgcccggc accctccggg cgttgcttc
361 acaacgttca aatccgctcc cggcggattt gtcctactca ggagagcggt caccgacaaa
421 caacagataa aacgaaaggc ccagtcttcc gactgagcct ttcgttttat ttgatgcctg
481 gcagttccct actctcgcgt taacgctagc atggatgttt tcccagtcac gacgttgtaa
541 aacgacggcc agtcttaagc tcgggcccc aataatgatt ttattttgac tgatagtgc
601 ctgttcgttg caacaaattg atgagcaatg cttttttata atgccaactt tgtacaaaaa
661 agcaggctcc gcgccgcctt tgtttaactt taagaaggag cccttcaccn nnnnnaaggg
721 tgggcgcgcc gaccagctt tcttgtaaaa agttggcatt ataagaaagc attgcttatc
781 aatttggtgc aacgaacagg tcactatcag tcaaaataaa atcattattt gccatccagc
841 tgatatcccc tatagttagt cgtattacat ggtcatagct gtttcctggc agctctggcc
901 cgtgtctcaa aatctctgat gttacattgc acaagataaa aatatatcat catgaacaat
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1141 gccagagttg tttctgaaac atggcaaagg tagcgttgcc aatgatgtta cagatgagat
1201 ggtcagacta aactggctga cggaatttat gcctcttccg accatcaagc attttatccg
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1321 attagaagaa tatcctgatt caggtgaaaa tattgttgat gcgctggcag tgttcctgcg
1381 ccggttgcat tcgattcctg tttgtaattg tccttttaac agcgatcgcg tatttcgtct
1441 cgctcaggcg caatcacgaa tgaataacgg tttggttgat gcgagtgatt ttgatgacga
1501 gcgtaatggc tggcctgttg aacaagtctg gaaagaaatg cataaacttt tgccattctc
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2341 gcgtgagcat tgagaaagcg ccacgcttcc cgaagggaga aaggcggaca ggtatccggt
2401 aagcggcagg gtcggaacag gagagcgcac gagggagctt ccagggggaa acgcctggta
2461 tctttatagt cctgtcgggt ttcgccacct ctgacttgag cgtcgatttt tgtgatgctc
2521 gtcagggggg cggagcctat ggaaaaacgc cagcaacgcg gcctttttac ggttcctggc
2581 cttttgctgg ccttttgctc acatggt

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FIG.23B

10005876\_070808

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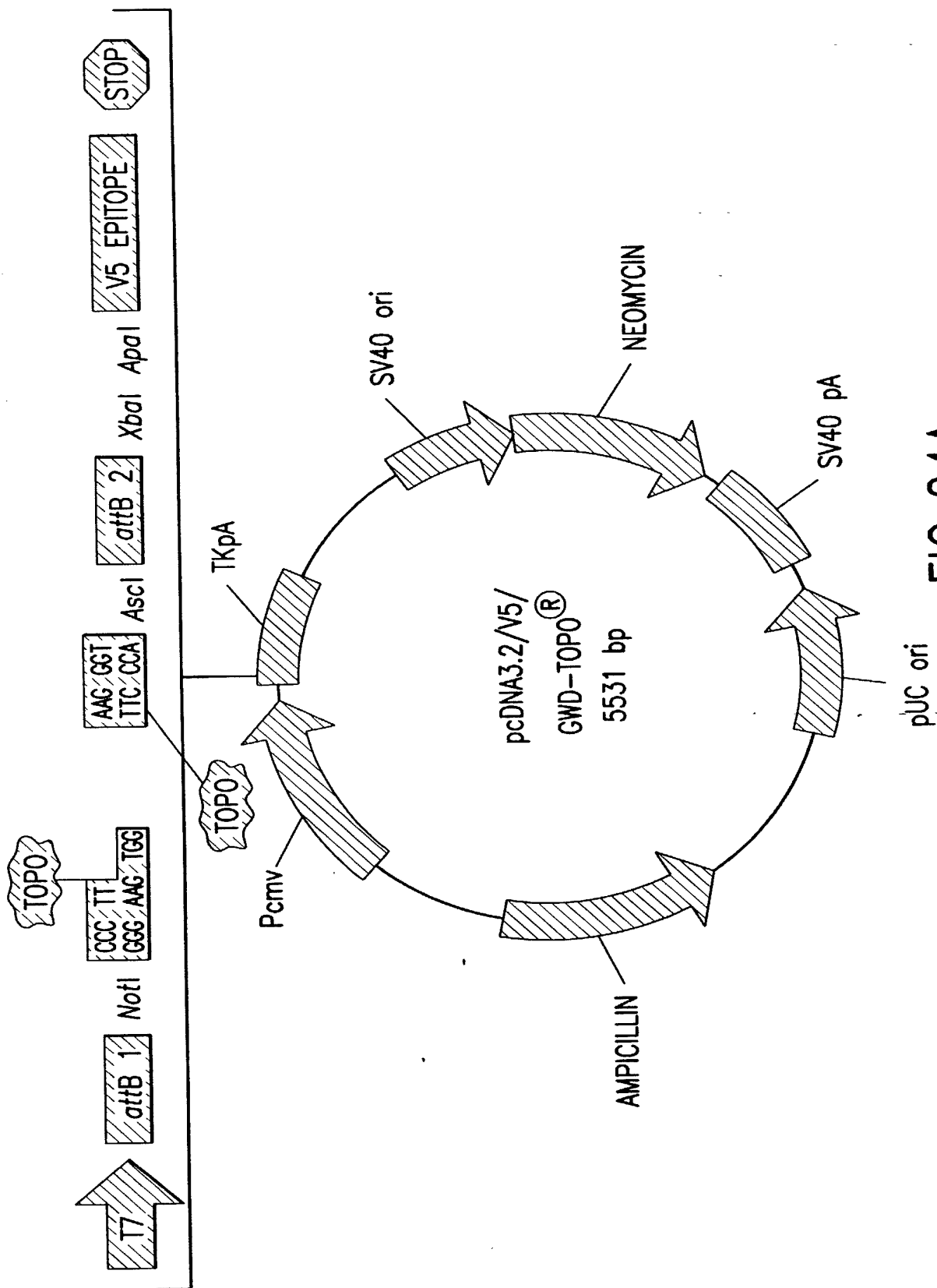


FIG. 24A

1	gacggatcgg	gagatctccc	gatccccctat	ggtcgactct	cagtacaatc	tgctctgatg
61	ccgcatagtt	aagccagtat	ctgctccctg	cttgtgtgtt	ggaggtcgct	gagtagtgcg
121	cgagcaaaat	ttaagctaca	acaaggcaag	gcttgaccga	caattgcatg	aagaatctgc
181	ttaggggttag	gcgttttgcg	ctgcttcgcg	atgtacgggc	cagatatacg	cgttgacatt
241	gattattgac	tagttattaa	tagtaatcaa	ttacggggtc	attagttcat	agccccatata
301	tggagttccg	cgttacataa	cttacggtaa	atggccccgc	tggtgaccg	cccaacgacc
361	cccgcgccatt	gacgtcaata	atgacgtatg	ttcccatagt	aacgcccaata	gggactttcc
421	attgacgtca	atgggtggac	tatttacggg	aaactgcca	cttggcagta	catcaagtgt
481	atcatatgcc	aagtacgccc	cctattgacg	tcaatgacgg	taaatggccc	gcctggcatt
541	atgccagta	catgacctta	tgggactttc	ctacttggca	gtacatctac	gtattagtca
601	tcgctattac	catggtgatg	cggttttggc	agtacatcaa	tgggcgtgga	tagcggtttg
661	actcacgggg	atttccaagt	ctccacccca	ttgacgtcaa	tgggagtttg	ttttggcacc
721	aaaatcaacg	ggactttcca	aaatgtcgta	acaactccgc	cccattgacg	caaatgggcg
781	gtaggcgtgt	acggtggggag	gtctatataa	gcagagctct	ctggctaact	agagaacca
841	ctgcttactg	gcttatcgaa	attaatacga	ctcactatag	ggagacccaa	gctggctagt
901	taagctatca	acaagtttgt	acaaaaaagc	aggctccgcg	gccgcccctt	caccatgnnn
961	nnnnnnaagg	gtgggcgcgc	cgaccagct	ttcttgtaca	aagtggttga	tctagagggc
1021	ccgcggttcg	aaggtaagcc	tatccctaac	cctctcctcg	gtctcgattc	tacgcgtacc
1081	ggttagtaat	gagtttaaac	gggggaggct	aactgaaaca	cgaagggaga	caataccgga
1141	aggaacccgc	gctatgacgg	caataaaaag	acagaataaa	acgcacgggt	gttgggtcgt
1201	ttgttcataa	acgcgggggt	cggctccagg	gctggcactc	tgtcgatacc	ccaccgagac
1261	cccatggggg	ccaatacgcc	cgcgtttctt	ccttttcccc	acccaccccc	ccaagttcgg
1321	gtgaaggccc	agggctcgca	gccaacgtcg	gggcggcagg	ccctgccata	gcagatctgc
1381	gcagctgggg	ctctaggggg	tatccccacg	cgccctgtag	cggcgcatta	agcgcggcgg
1441	gtgtggtggt	tacgcgcagc	gtgaccgcta	cacttgccag	cgccctagcg	cccgtcctt
1501	tcgctttctt	cccttccttt	ctcgccacgt	tcgcgcgctt	tccccgtcaa	gctctaaatc
1561	ggggcatccc	tttaggggtc	cgatttagtg	ctttacggca	cctcgacccc	aaaaaacttg
1621	attagggtga	tggttcacgt	agtgggccat	cgccctgata	gacggttttt	cgccctttga
1681	cgttgagtc	cacgttcttt	aatagtggac	tcttgttcca	aactggaaca	acactcaacc
1741	ctatctcggt	ctattctttt	gatttataag	ggattttggg	gatttcggcc	tattggttaa
1801	aaaatgagct	gatttaacaa	aaatttaacg	cgaattaatt	ctgtggaatg	tgtgtcagtt
1861	agggtgtgga	aagtccccag	gctccccacg	aggcagaagt	atgcaaagca	tgcattctcaa
1921	ttagtcagca	accaggtgtg	gaaagtcccc	aggctcccca	gcaggcagaa	gtatgcaaag
1981	catgcattct	aattagtcag	caaccatagt	cccgccctta	actccgcccc	tcccgcccct
2041	aactccgccc	agttccgccc	attctccgcc	ccatggctga	ctaatttttt	ttatttatgc
2101	agaggccgag	gccgcctctg	cctctgagct	attccagaag	tagtgaggag	gcttttttgg
2161	aggcctaggc	ttttgcaaaa	agctcccggg	agcttgata	tccattttcg	gatctgatca
2221	agagacagga	tgaggatcgt	ttcgcatgat	tgaacaagat	ggattgcacg	caggttctcc
2281	ggccgcttgg	gtggagaggc	tattcggcta	tgactgggca	caacagacaa	tcggctgtct
2341	tgatgccgcc	gtgttccggc	tgtcagcgca	ggggcgcccc	gttctttttg	tcaagaccga
2401	cctgtccggt	gccctgaatg	aactgcagga	cgaggcagcg	cggctatcgt	ggctggccac
2461	gacgggcgtt	ccttgccgag	ctgtgctcga	cgttgtcact	gaagcgggaa	gggactggct
2521	gctattgggc	gaagtgccgg	ggcaggatct	cctgtcatct	caccttgctc	ctgccgagaa
2581	agtatccatc	atggctgatg	caatgcggcg	gctgcatacg	cttgatccgg	ctacctgccc
2641	attcgaccac	caagcgaaac	atcgcatcga	gcgagcacgt	actcggatgg	aagccgggtct
2701	tgtcgatcag	gatgatctgg	acgaagagca	tcaggggctc	gcgccagccg	aactgttcgc
2761	caggctcaag	gcgcgcatgc	ccgacggcga	ggatctcgtc	gtgacccatg	gcgatgctcg

FIG. 24B

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```

2821 cttgccgaat atcatggtgg aaaaatggccg cttttctgga ttcacgcact gtggccggct
2881 ggggtgtggcg gaccgctatc aggacatagc gttggctacc cgtgatattg ctgaagagct
2941 tggcgggcgaa tgggctgacc gcttcctcgt gctttacggt atcgccgctc ccgattcgca
3001 gcgcatcgcc ttctatcgcc ttcttgacga gttcttctga gcgggactct ggggttcgcg
3061 aatgaccga ccaagcgacg cccaacctgc catcacgaga tttcgattcc accgccgcct
3121 tctatgaaag gttgggcttc ggaatcgttt tccgggacgc cggtggatg atcctccagc
3181 gcggggatct catgctggag ttcttcgccc accccaactt gtttattgca gcttataatg
3241 gttacaaata aagcaatagc atcacaaatt tcacaaataa agcatttttt tcaactgcatt
3301 ctagttgtgg tttgtccaaa ctcatcaatg tatcttatca tgtctgtata ccgtcgacct
3361 ctagctagag cttggcgtaa tcatggctcat agctgtttcc tgtgtgaaat tggtatccgc
3421 tcacaattcc acacaacata cgagccggaa gcataaagtg taaagcctgg ggtgcctaata
3481 gagtgaagta actcacatta attgcgttgc gctcactgcc cgctttccag tcgggaaacc
3541 tgtcgtgcca gctgcattaa tgaatcgcc aacgcgcggg gagaggcggg ttgctgattg
3601 ggcgctcttc cgcttcctcg ctactgact cgctgcgctc ggtcgttcgg ctgcggcgag
3661 cggtatcagc tcaactcaaag gcggtataac ggttatccac agaatcaggg gataacgcag
3721 gaaagaacat gtgagcaaaa ggccagcaaa aggccaggaa ccgtaaaaag gccgcgttgc
3781 tggcggtttt ccataggctc cgccccctg acgagcatca caaaaatcga cgctcaagtc
3841 agaggtggcg aaacccgaca ggactataaa gataccaggc gttccccctt ggaagctccc
3901 tcgtgcgctc tcctgttcgg accctgccgc ttaccggata cctgtccgcc tttctccctt
3961 cgggaagcgt ggcgctttct caatgctcac gctgtaggta tctcagttcg gtgtaggtcg
4021 ttcgctccaa gctgggctgt gtgcacgaac ccccggttca gcccgaccgc tgcgccttat
4081 ccggtaaacta tcgtcttgag tccaaccggg taagacacga cttatcgcca ctggcagcag
4141 cactggtaa caggattagc agagcgagg atgtaggcgg tgctacagag ttcttgaagt
4201 ggtggcctaa ctacggctac actagaagga cagtatttgg tatctgcgct ctgctgaagc
4261 cagttacctt cggaaaaaga gttggtagct cttgatccgg caaacaacc accgctggta
4321 gcggtggttt tttgtttgc aagcagcaga ttacgcgcag aaaaaaagga tctcaagaag
4381 atcctttgat cttttctacg gggctgacg ctacgtggaa cgaaaactca cgtaaggga
4441 ttttggctcat gagattatca aaaaggatct tcacctagat ctttttaaat taaaaatgaa
4501 gttttaaatc aatctaaagt atatatgagt aaacttggtc tgacagttac caatgcttaa
4561 tcagtgaagg acctatctca gcgatctgtc tatttcgttc atccatagtt gcctgactcc
4621 ccgtcgtgta gataactacg atacgggagg gcttaccatc tggccccagt gctgcaatga
4681 taccgcgaga cccacgctca ccggtccag atttatcagc aataaaccag ccagccggaa
4741 gggccgagcg cagaagtgg cctgcaactt tatccgcctc catccagtct attaattgtt
4801 gccgggaagc tagagtaagt agttcgccag ttaatagttt gcgcaacgtt gttgccattg
4861 ctacaggcat cgtggtgtca cgctcgctcg ttggtatggc ttcattcagc tccggttccc
4921 aacgatcaag gcgagttaca tgatccccc tgttggtgcaa aaaagcgggt agctccttcg
4981 gtcctccgat cgttgtcaga agtaagttgg ccgcagtgtt atcactcatg gttatggcag
5041 cactgcataa ttctcttact gtcatgccat ccgtaagatg cttttctgtg actggtgagt
5101 actcaaccaa gtcattctga gaatagtgtg tgccggcgacc gagttgctct tgccccgcgt
5161 caatacggga taataccgcg ccacatagca gaactttaaa agtgctcatc attggaaaac
5221 gttcttcggg gcgaaaactc tcaaggatct taccgctgtt gagatccagt tcgatgtaac
5281 cactcgtgc acccaactga tcttcagcat cttttacttt caccagcgtt tctgggtgag
5341 caaaaacagg aaggcaaaat gccgcaaaaa aggggaataa ggcgacacgg aaatgttgaa
5401 tactcatact cttccttttt caatattatt gaagcattta tcagggttat tgtctcatga
5461 gcggatacat atttgaatgt atttagaaaa ataaacaaat aggggttccg cgcacatttc
5521 cccgaaaagt gccacctgac gtc

```

FIG.24C

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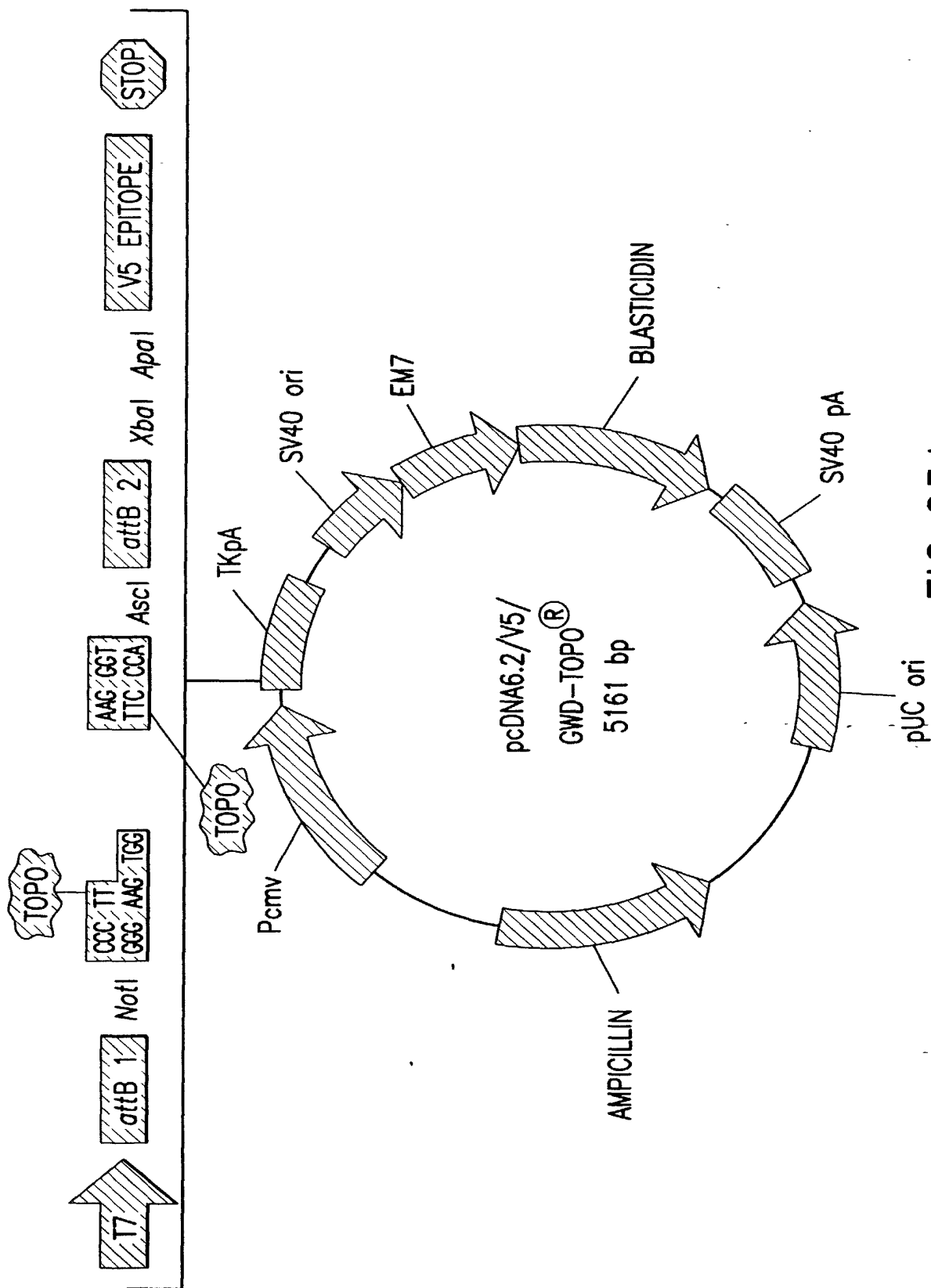


FIG. 25A

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1	gacggatcgg	gagatctccc	gatccccat	ggtgcactct	cagtacaatc	tgctctgatg
61	ccgcatagtt	aagccagtat	ctgctccctg	cttggtgtgt	ggaggctcgt	gagtagtgcg
121	cgagcaaaat	ttaagctaca	acaaggcaag	gcttgaccga	caattgcatg	aagaatctgc
181	ttagggttag	gcgttttgcg	ctgcttcgcg	atgtacgggc	cagatatacg	cgttgacatt
241	gattattgac	tagttattaa	tagtaatcaa	ttacggggtc	attagttcat	agcccatata
301	tggagttccg	cgttacataa	cttacggtaa	atggcccgcg	tggctgaccg	cccaacgacc
361	cccgccatt	gacgtcaata	atgacgtatg	ttcccatagt	aacgcccaata	gggactttcc
421	attgacgtca	atgggtggag	tatttacggt	aaactgcccc	cttggcagta	catcaagtgt
481	atcatatgcc	aagtacgcc	cctattgacg	tcaatgacgg	taaatggccc	gcctggcatt
541	atgcccagta	catgacctta	tgggactttc	ctacttgga	gtacatctac	gtattagtca
601	tcgctattac	catggtgatg	cggttttggc	agtacatcaa	tgggcgtgga	tagcggtttg
661	actcacgggg	atttccaagt	ctccacccca	ttgacgtcaa	tgggagtttg	ttttggcacc
721	aaaatcaacg	ggactttcca	aaatgtcgta	acaactccgc	cccattgacg	caaatgggcg
781	gtaggcgtgt	acgggtgggag	gtctatataa	gcagagctct	ctggctaact	agagaacca
841	ctgcttactg	gcttatcgaa	attaatacga	ctcactatag	ggagacccaa	gctggctagt
901	taagctatca	acaagtttgt	acaaaaaagc	aggctccgcg	gccgccctt	caccatgnnn
961	nnnnnaagg	gtgggcgcgc	cgaccagct	ttcttgta	aagtggttga	tctagagggc
1021	ccgcggttcg	aagtaagcc	tatccctaac	cctctcctcg	gtctcgattc	tacgcgtacc
1081	ggttagtaat	gagtttaaac	gggggaggct	aactgaaaca	cgaaggaga	caataccgga
1141	aggaaccgcg	gctatgacgg	caataaaaag	acagaataaa	acgcacgggt	gttgggtcgt
1201	ttgttcataa	acgcggggtt	cggtcccagg	gctggcactc	tgtcgatacc	ccaccgagac
1261	cccattgggg	ccaatacgcc	cgcgtttctt	ccttttcccc	acccacccc	ccaagttcgg
1321	gtgaaggccc	agggtctgca	gccaacgtcg	gggcggcagg	ccctgccata	gcagatctgc
1381	gcagctgggg	ctctaggggg	tatccccacg	cgccctgtag	cggcgcatta	agcgcggcgg
1441	gtgtggtggt	tacgcgcagc	gtgaccgcta	cacttgccag	cgccctagcg	cccgctcctt
1501	tcgctttctt	cccttccttt	ctcgccacgt	tcgcgggctt	tcccgcgtaa	gctctaaatc
1561	ggggcatccc	tttagggttc	cgatttagtg	ctttacggca	cctcgacccc	aaaaaacttg
1621	attagggtga	tggttcacgt	agtgggcat	cgccctgata	gacggttttt	cgccctttga
1681	cgttggagtc	cacgttcttt	aatagtggac	tcttggtcca	aactggaaca	acactcaacc
1741	ctatctcggt	ctattctttt	gatttataag	ggattttggg	gatttcggcc	tattggttaa
1801	aaaatgagct	gatttaacaa	aaatttaacg	cgaattaatt	ctgtggaatg	tgtgtcagtt
1861	agggtgtgga	aagtccccag	gctccccagc	aggcagaagt	atgcaaagca	tgcactcaaa
1921	ttagtcagca	accaggtgtg	gaaagtcccc	aggctcccca	gcaggcagaa	gtatgcaaag
1981	catgcatctc	aattagtcag	caaccatagt	cccgccctta	actccgccc	tccgcgccct
2041	aactccgccc	agttccgccc	attctccgcc	ccatggctga	ctaatttttt	ttatttatgc
2101	agaggccgag	gccgcctctg	cctctgagct	attccagaag	tagtgaggag	gcttttttgg
2161	aggcctaggc	ttttgcaaaa	agctcccggg	agcttgata	tccatttttcg	gatctgatca
2221	gcacgtgttg	acaattaatc	atcggcatag	tatatcgga	tagtataata	cgacaagggtg
2281	aggaactaaa	ccatggccaa	gcctttgtct	caagaagaat	ccaccctcat	tgaagagca
2341	acggctacaa	tcaacagcat	ccccatctct	gaagactaca	gcgtcgccag	cgcagctctc
2401	tctagcgacg	gccgcatctt	cactggtgtc	aatgtatatc	attttactgg	gggaccttgt
2461	gcagaactcg	tgggtgctggg	cactgctgct	gctgcggcag	ctggcaacct	gacttgatc
2521	gtcgcgatcg	gaaatgagaa	caggggcac	ttgagccctt	gcggacgggtg	ccgacagggtg
2581	cttctcgatc	tgcactctgg	gatcaaagcc	atagtgaagg	acagtgatgg	acagccgacg
2641	gcagttggga	ttcgtgaatt	gctgccctct	ggttatgtgt	gggagggtta	agcacttcgt
2701	ggccgaggag	caggactgac	acgtgctacg	agatttcgat	tccaccgccc	ccttctatga
2761	aaqqtggggc	ttcggaatcg	ttttccggga	cgccggctgg	atgactctcc	agcgcgggga

FIG. 25B



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```

2821 tctcatgctg gagttcttcg cccaccccaa cttgtttatt gcagcttata atggttacaa
2881 ataaagcaat agcatcacia atttcacaaa taaagcattt ttttcactgc attctagttg
2941 tggtttgtcc aaactcatca atgtatctta tcatgtctgt ataccgtcga cctctagcta
3001 gagcttggcg taatcatggg catagctggt tcctgtgtga aattgttatc cgctcacaat
3061 tccacacaa acacagagccg gaagcataaa gtgtaaagcc tgggggtgcct aatgagttag
3121 ctaactcaca ttaattgcgt tgcgctcact gcccgccttc cagtcgggaa acctgtcgtg
3181 ccagctgcat taatgaatcg gccaacgcgc ggggagaggc ggtttgcgta ttgggcgctc
3241 ttccgcttcc tcgctcactg actcgctgcg ctcggctcgtt cggctgcggc gagcgggtatc
3301 agctcactca aaggcggtaa tacgggtatc cacagaatca ggggataacg caggaaagaa
3361 catgtgagca aaaggccagc aaaaggccag gaaccgtaaa aaggccgcgt tgctggcggtt
3421 tttccatagg ctccgcccc ctgacgagca tcacaaaaat cgacgctcaa gtcagagggtg
3481 gcgaaacccg acaggactat aaagatacca ggcgtttccc cctggaagct ccctcgtgcg
3541 ctctcctggt cccaccctgc cgcttaccgg atacctgtcc gcctttctcc ctccgggaag
3601 cgtggcgctt tctcatagct cacgctgtag gtatctcagt tcggtgtagg tcgttcgctc
3661 caagctgggc tgtgtgcacg aacccccgt tcagcccgac cgctgcgcct tatccggtaa
3721 ctatcgtctt ggtccaacc cggtaaagaca cgacttatcg ccactggcag cagccactgg
3781 taacaggatt agcagagcga ggtatgtagg cggtgctaca gagttcttga agtgggtggcc
3841 taactacggc tacactagaa gaacagtatt tggatatctg gctctgctga agccagttac
3901 ctccggaaaa agagttggta gctcttgatc cggcaaaaa accaccgctg gtagcgggtt
3961 ttttgcttgc aagcagcaga ttacgcgcag aaaaaaagga tctcaagaag atcctttgat
4021 cttttctacg gggcttgacg ctacgtggaa cgaaaactca cgtaaaggga ttttggtcat
4081 gagattatca aaaaggatct tcacctagat ctttttaaat taaaaatgaa gttttaaatc
4141 aatctaaagt atatatgagt aaacttggtc tgacagttac caatgcttaa tcagttaggc
4201 acctatctca gcgatctgtc tatttcgttc atccatagtt gcctgactcc ccgtcgtgta
4261 gataactacg atacgggagg gcttaccatc tggccccagt gctgcaatga taccgcgaga
4321 cccacgctca ccggctccag atttatcagc aataaaccag ccagccggaa gggccgagcg
4381 cagaagtggg cctgcaactt tatccgcctc catccagtct attaattggt gccgggaagc
4441 tagagtaagt agttcgccag ttaatagttt gcgcaacgtt gttgccattg ctacaggcat
4501 cgtgggtgca cgctcgctcg ttggtatggc ttcattcagc tccggttccc aacgatcaag
4561 gcgagttaca tgatccccc tggtgtgcaa aaaagcggtt agctccttcg gtctccgat
4621 cgttgtcaga agtaagttgg ccgcagtgtt atcactcatg gttatggcag cactgcataa
4681 ttctcttact gtcatgcat ccgtaagatg cttttctgtg actggtgagt actcaaccaa
4741 gtcattctga gaatagtga tgcggcgacc gagttgctct tgcccggcgt caatacggga
4801 taataccgcg ccacatagca gaactttaaa agtgctcatc attggaaaac gttcttcggg
4861 gcgaaaactc tcaaggatct taccgctggt gagatccagt tcgatgtaac ccactcgtgc
4921 acccaactga tcttcagcat cttttacttt caccagcgtt tctgggtgag caaaaacagg
4981 aaggcaaaat gccgcaaaaa aggggaataa ggcgacacgg aaatggtgaa tactcatact
5041 ctcccttttt caatattatt gaagcattta tcagggttat tgtctcatga gcggatacat
5101 atttgaatgt atttagaaaa ataaacaaat aggggttccg cgcacatttc cccgaaaagt
5161 gccacctgac gtc

```

FIG.25C

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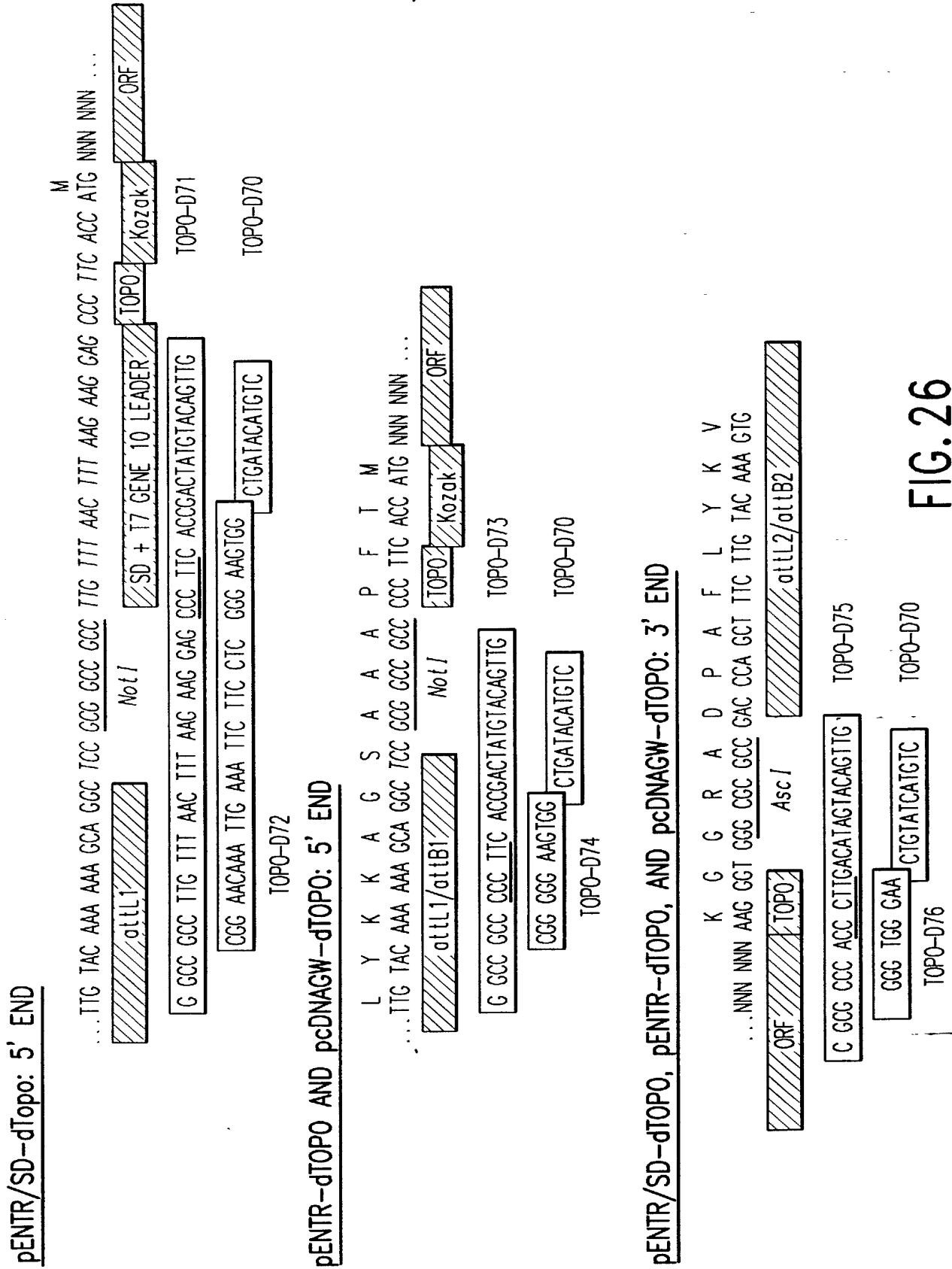


FIG. 26

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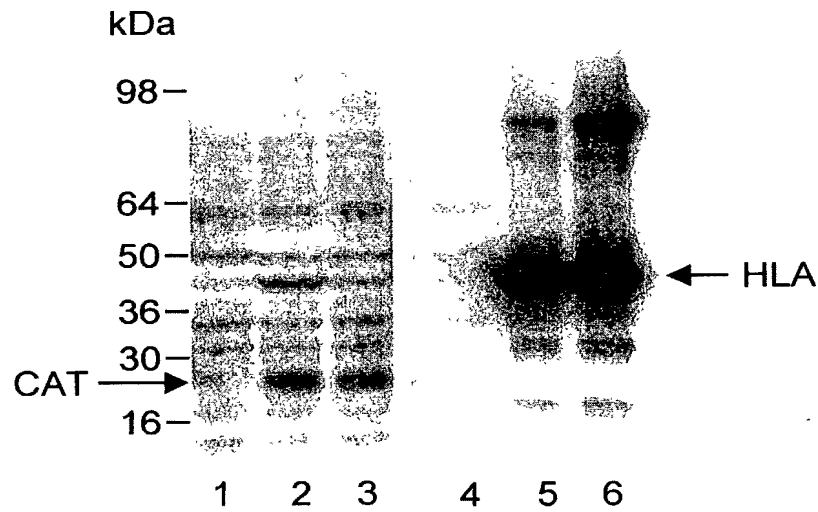


FIG.27

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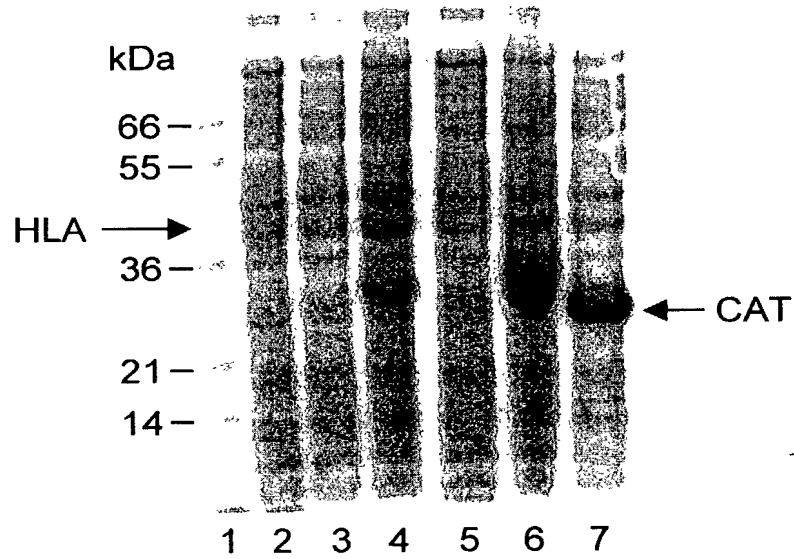


FIG.28

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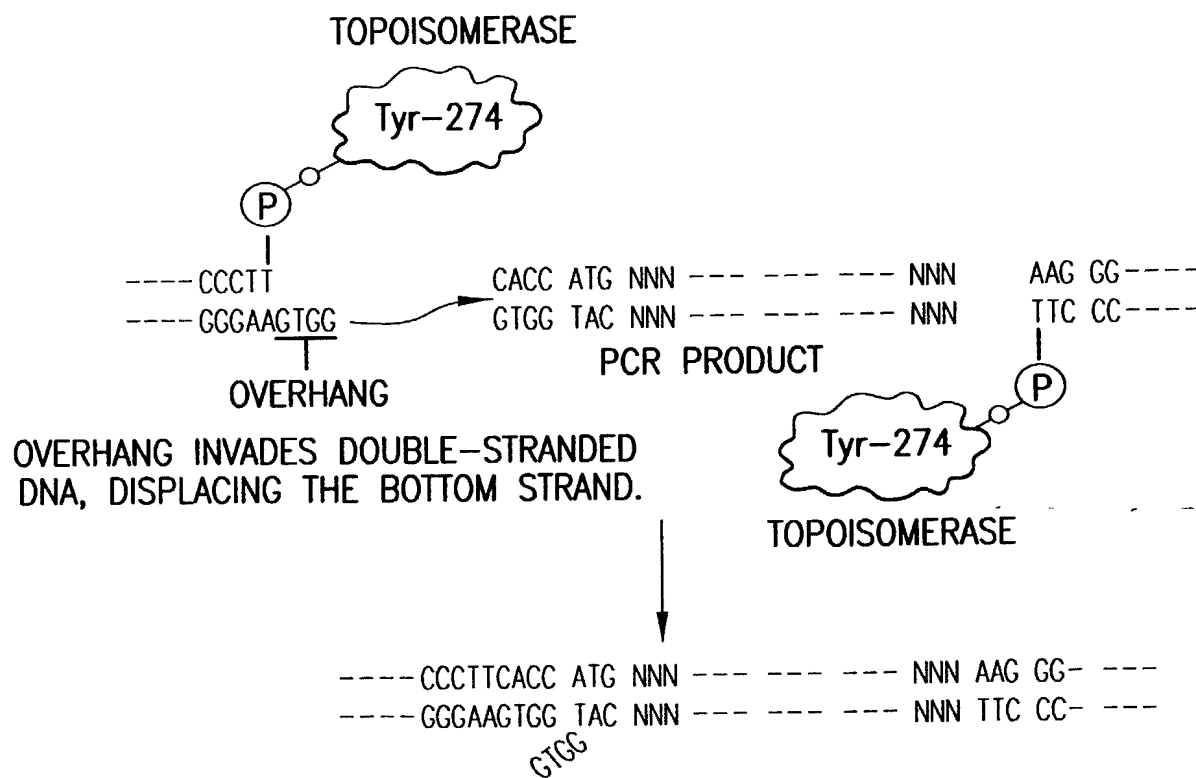


FIG. 29

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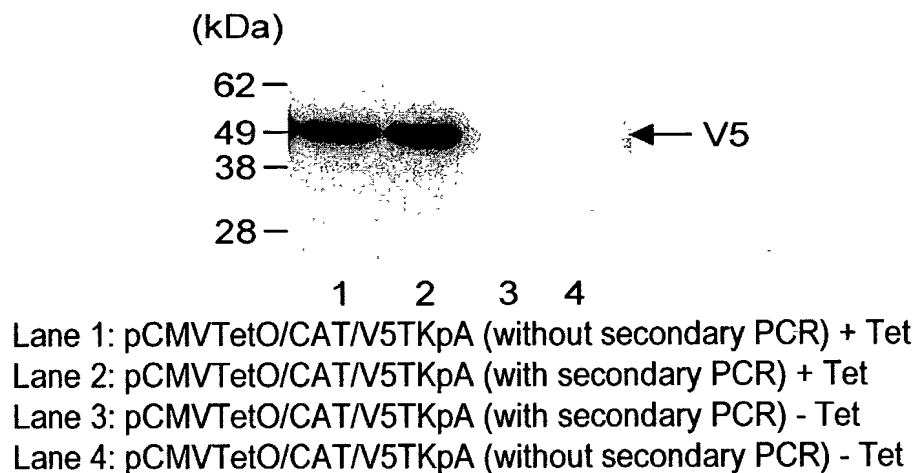


FIG.30A

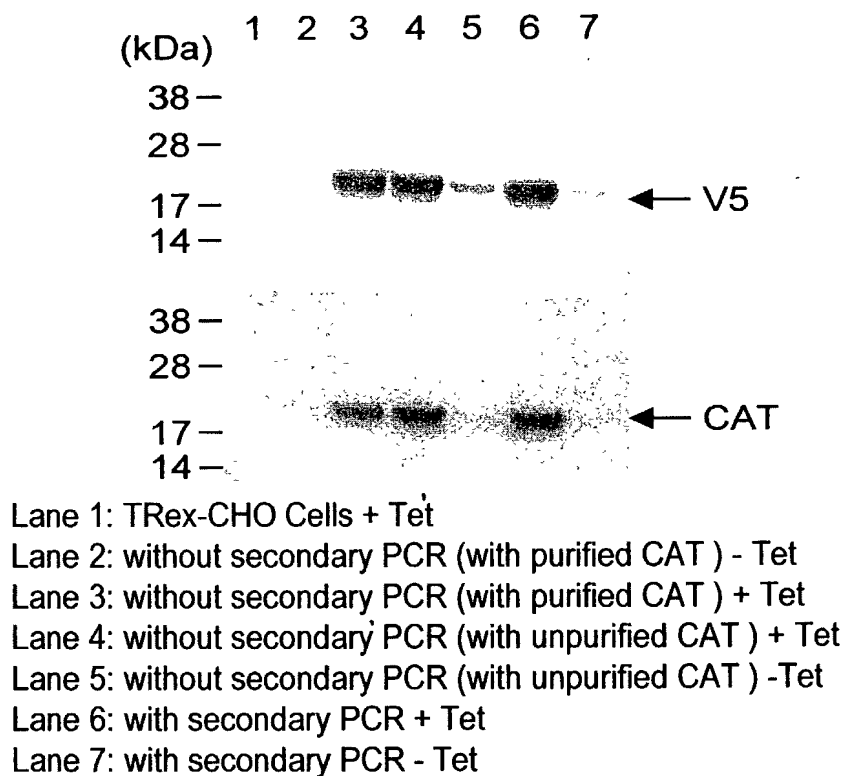
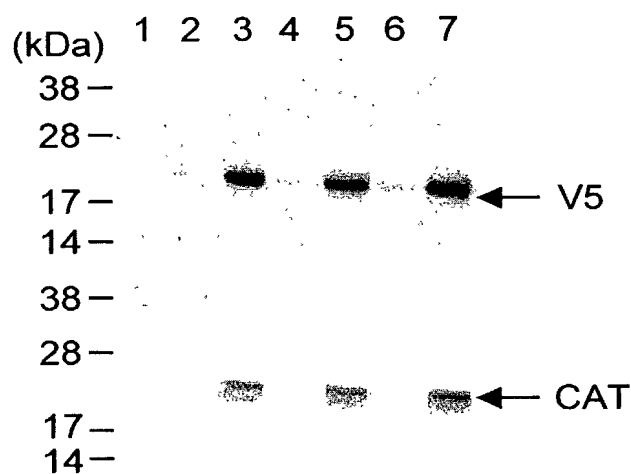


FIG.30B

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Lane 1: TRex-293 Cells + Tet

Lane 2: without secondary PCR (with purified CAT) - Tet

Lane 3: without secondary PCR (with purified CAT) + Tet

Lane 4: without secondary PCR (with unpurified CAT) - Tet

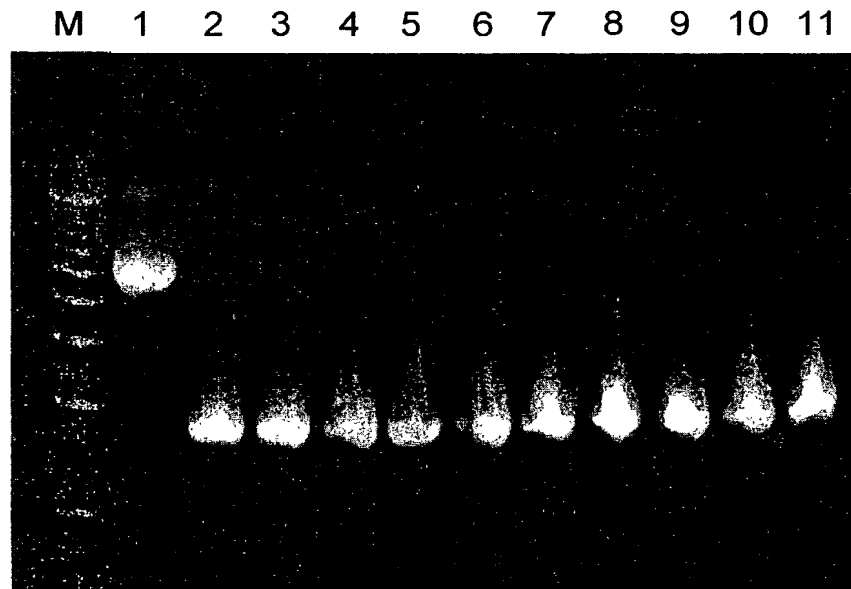
Lane 5: without secondary PCR (with unpurified CAT) + Tet

Lane 6: with secondary PCR - Tet

Lane 7: with secondary PCR + Tet

FIG.30C

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Lane 1: negative control; lanes 2-11: test clones; M: 500 bp marker

FIG.31



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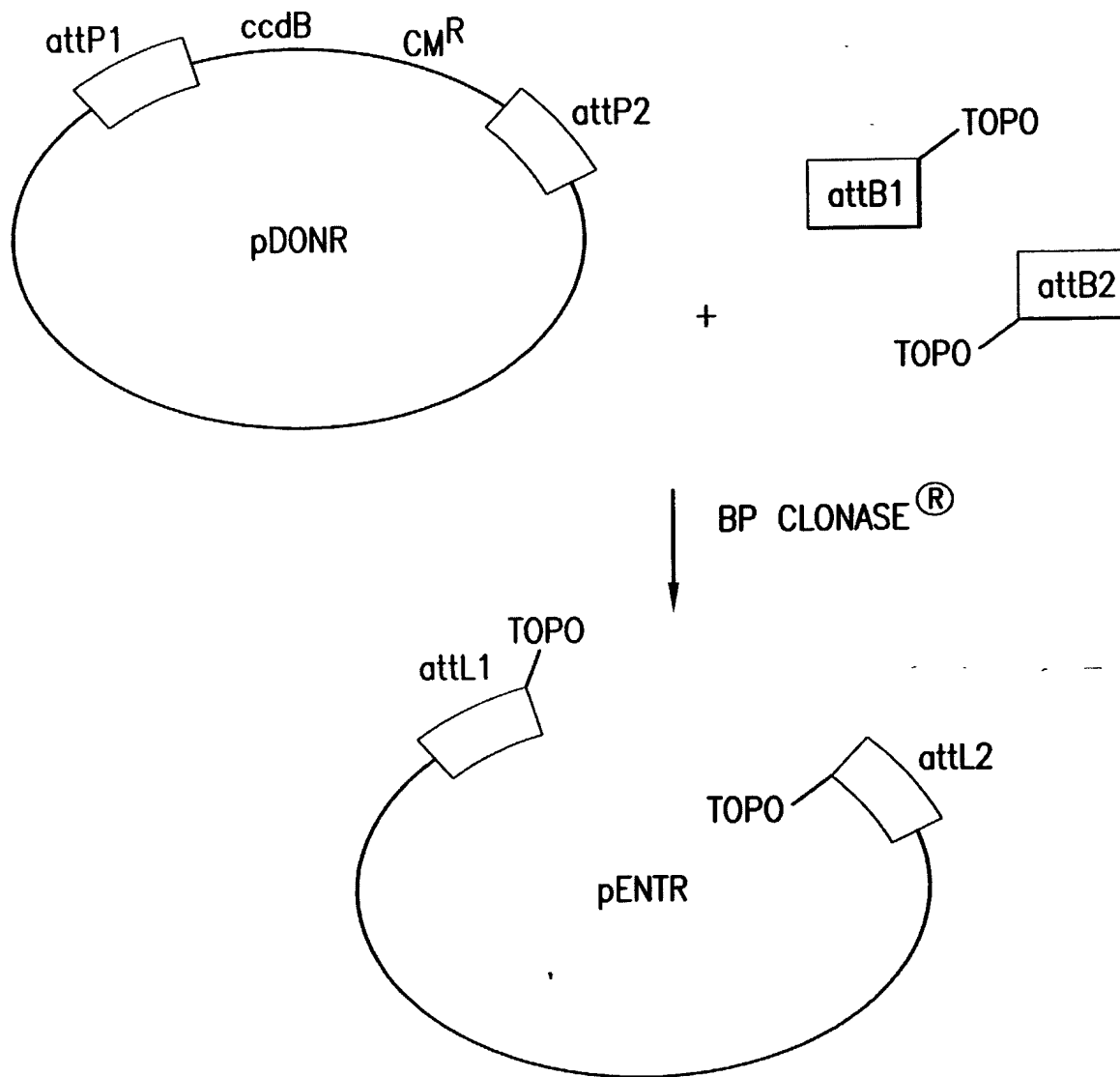


FIG. 32

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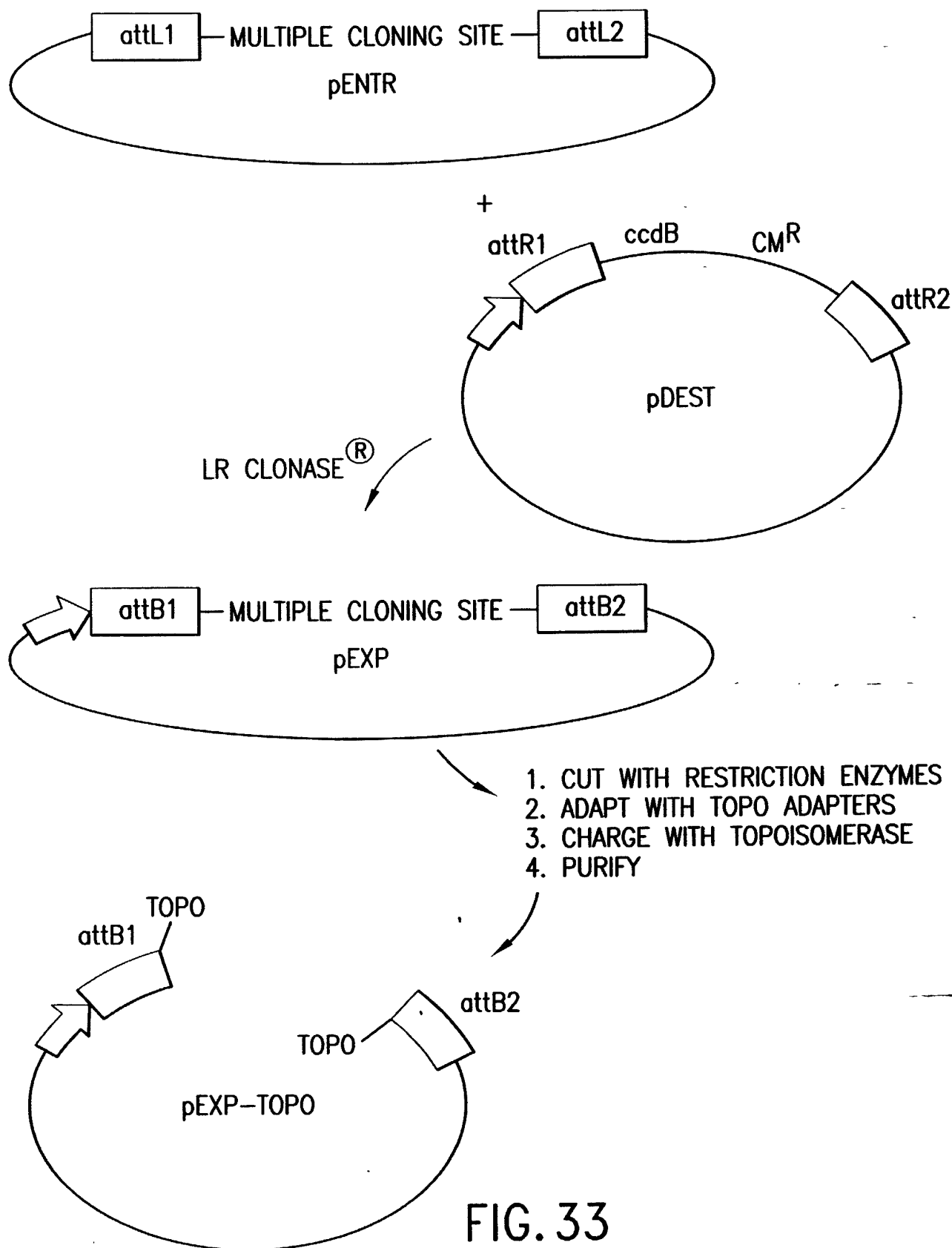


FIG. 33

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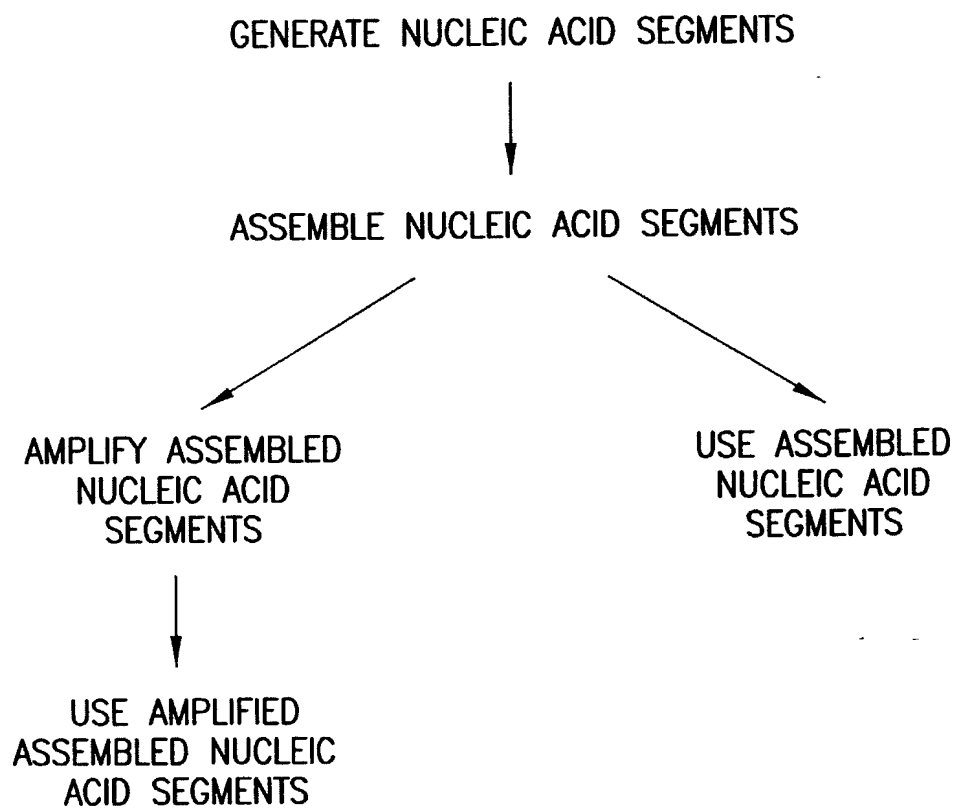


FIG. 34

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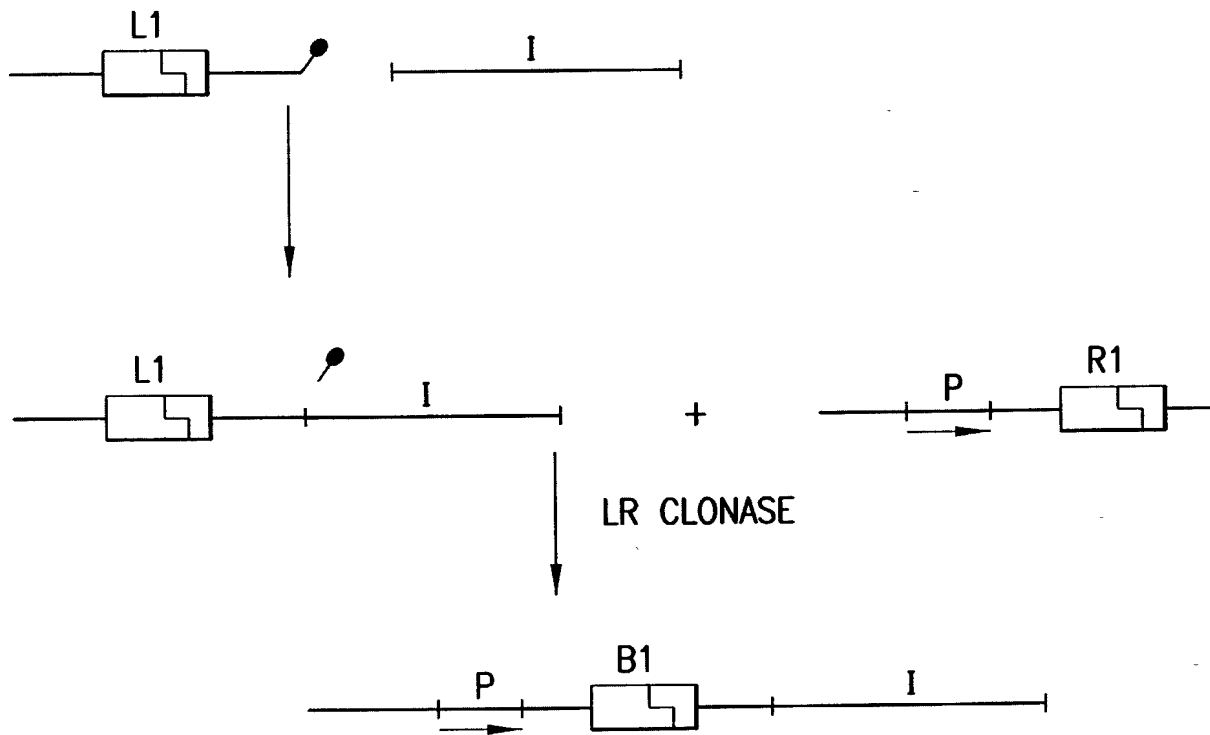


FIG. 35

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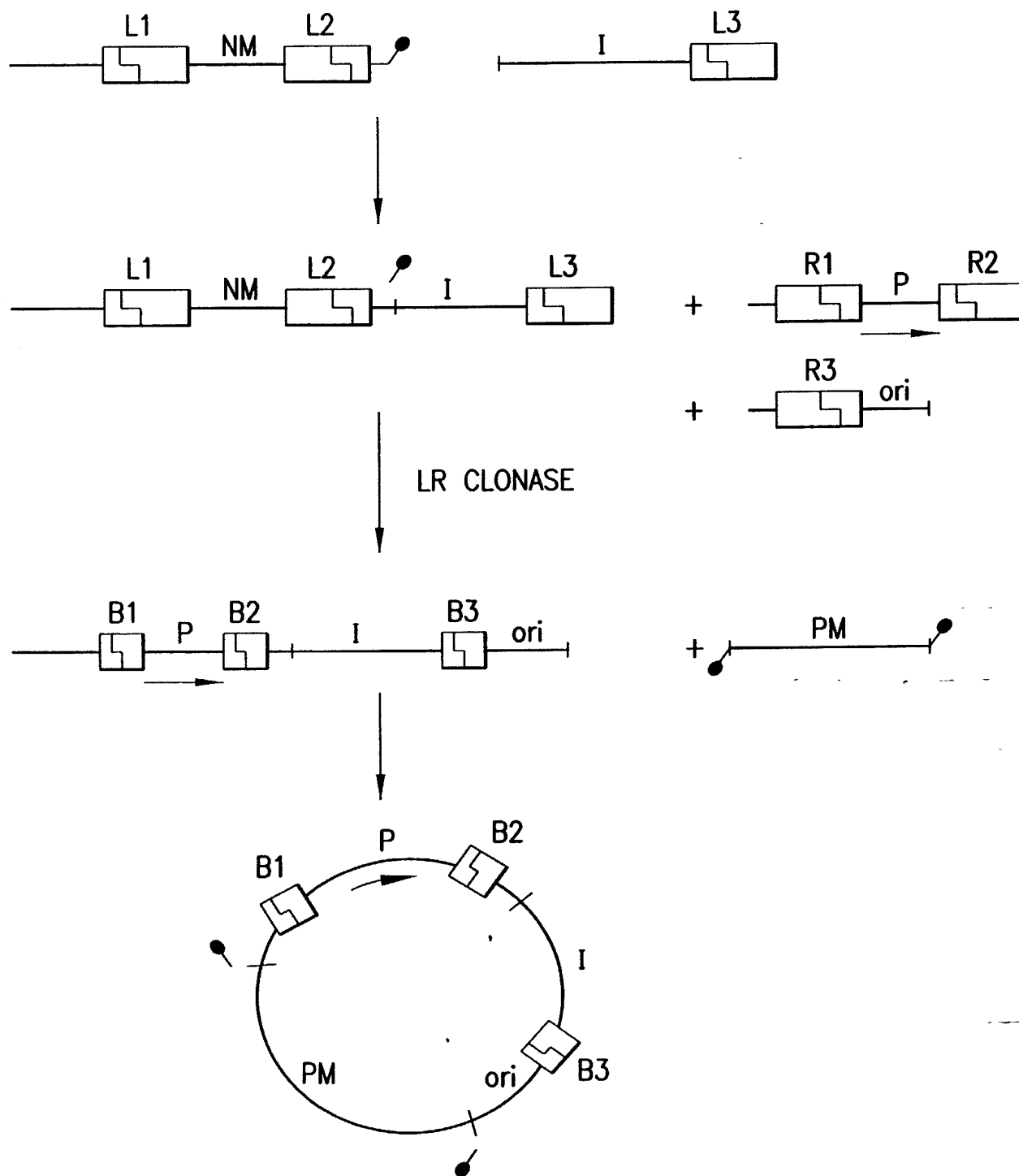


FIG. 36

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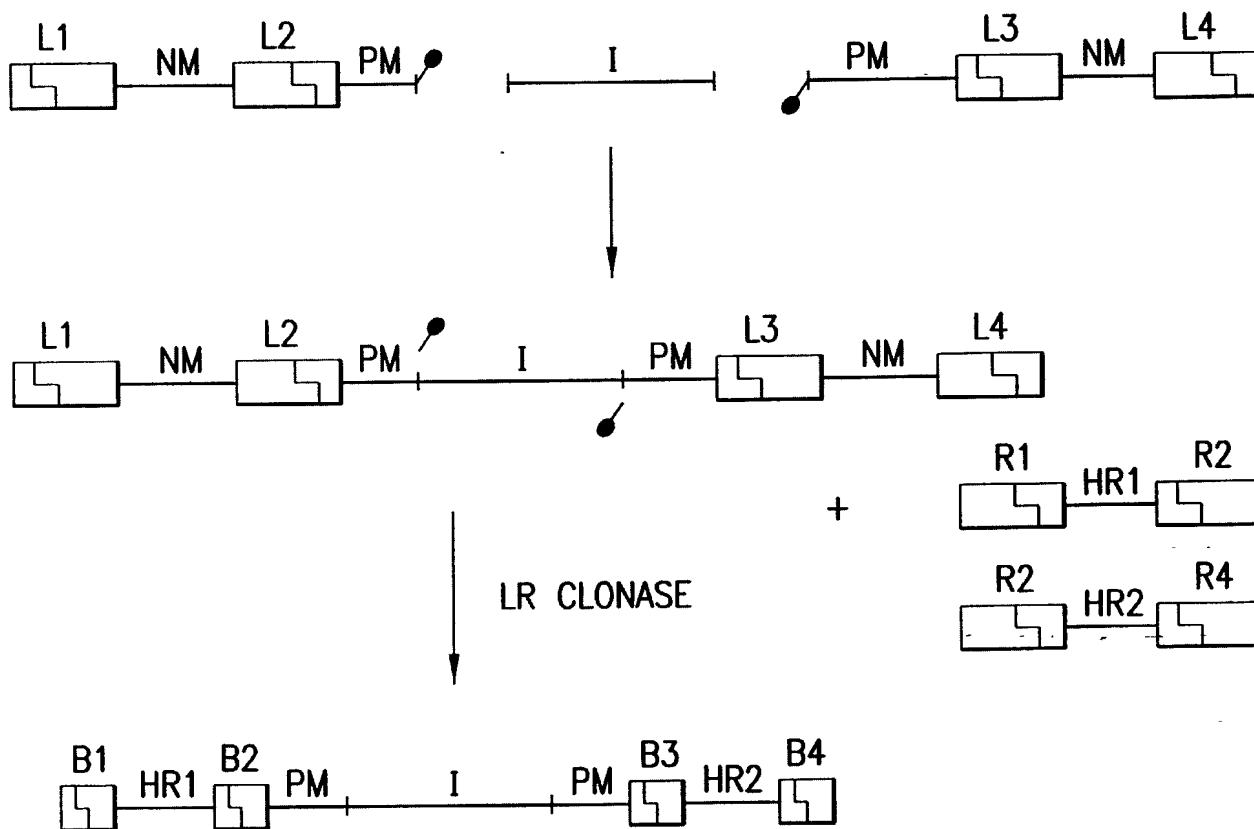


FIG. 37

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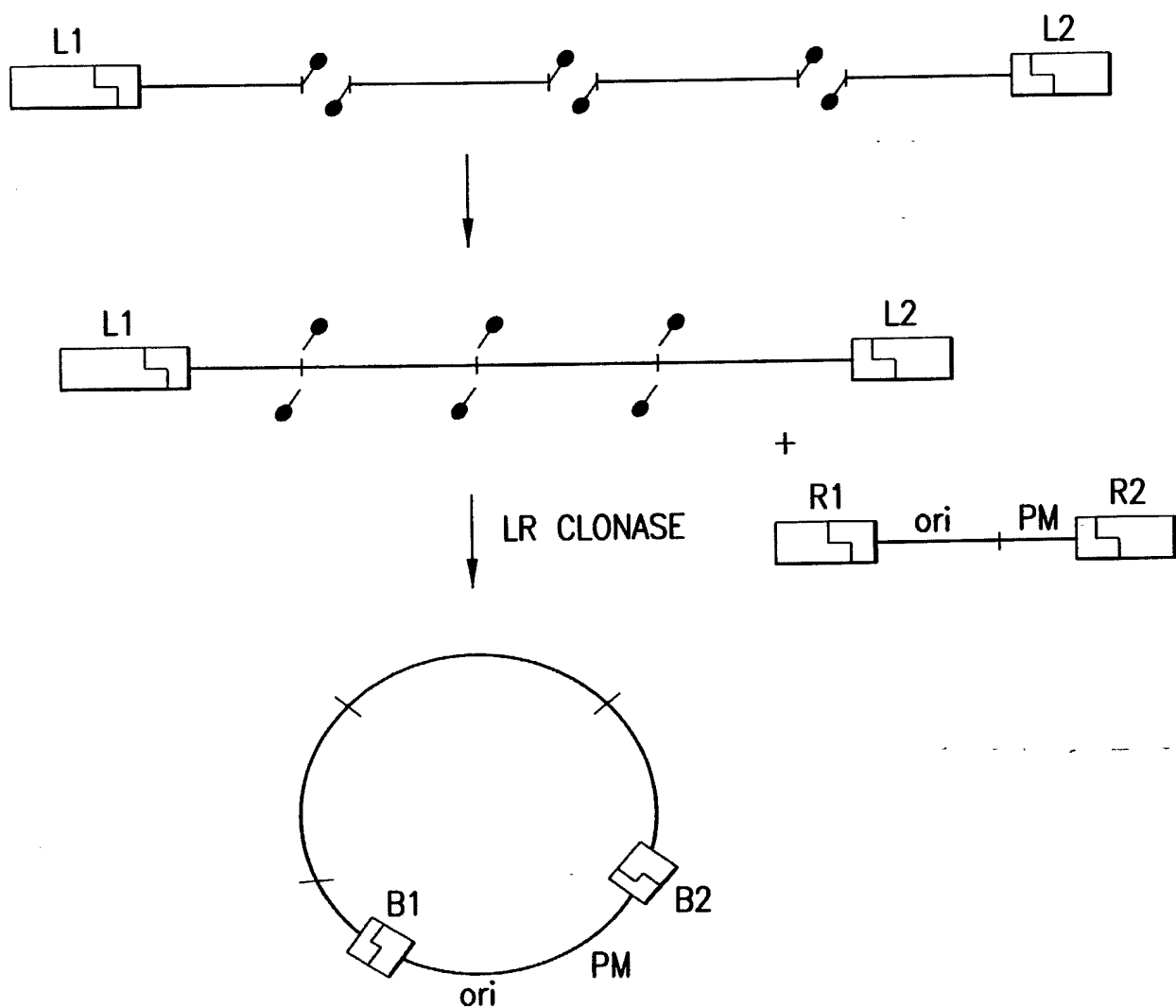


FIG. 38

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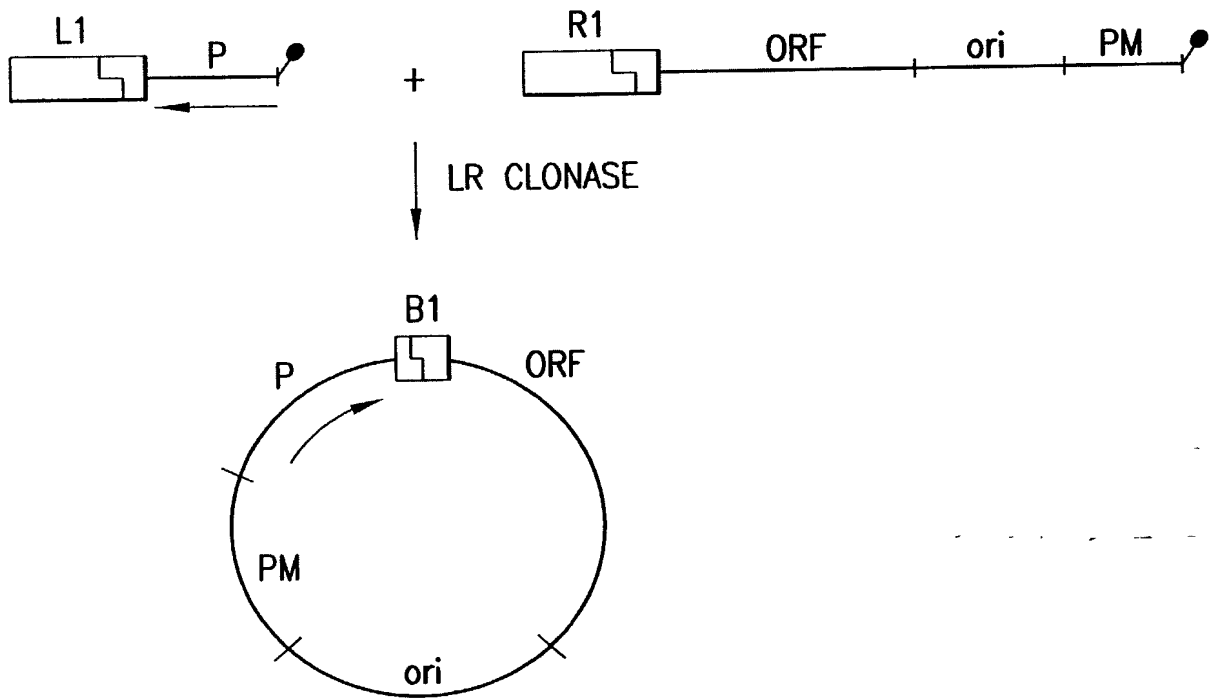


FIG. 39



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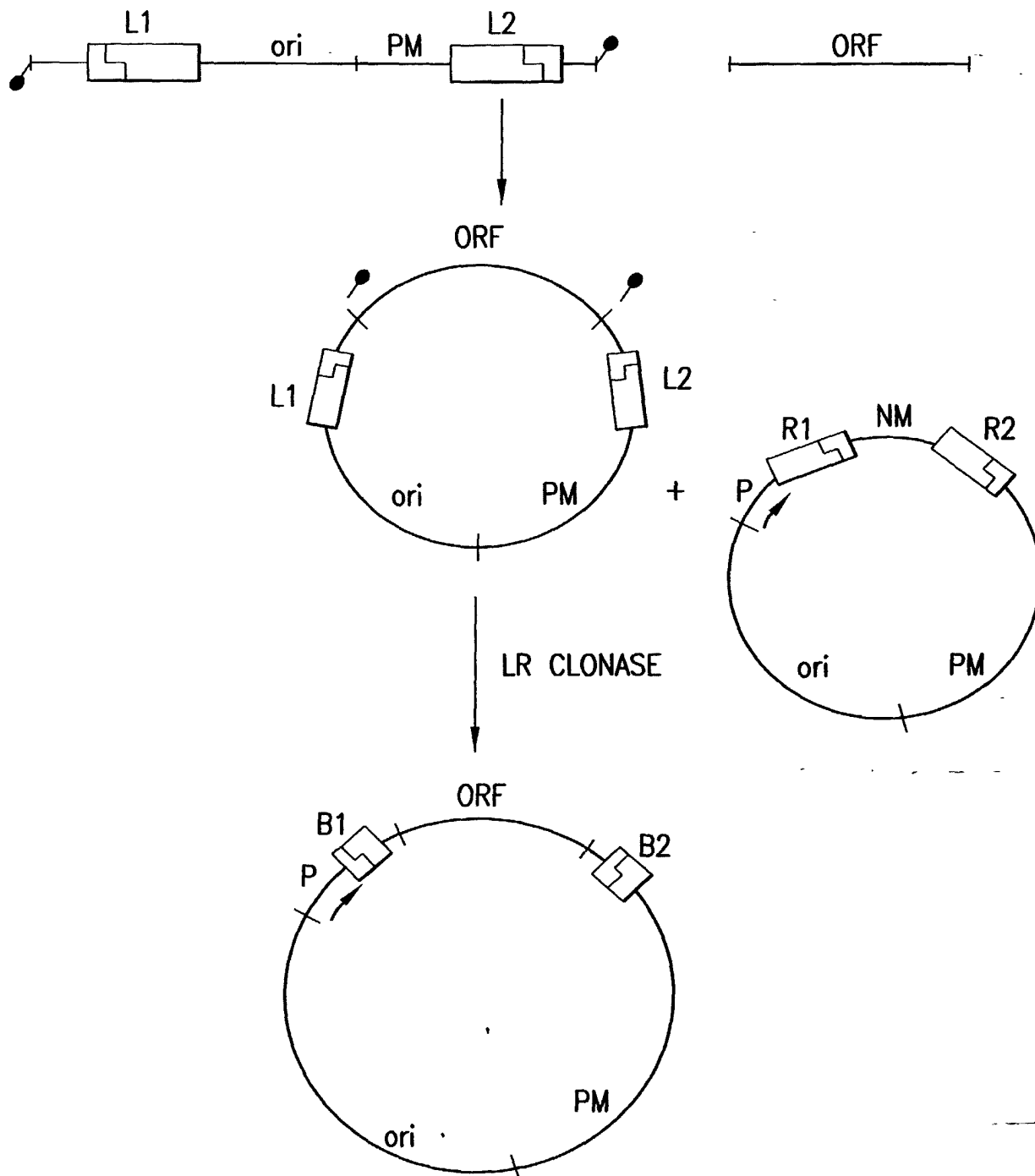


FIG. 40